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ABSTRACT

Though not comprehensive in scope, the guide presents credit recommendations and descriptions of over 600 courses sponsored by 38 government, industry, business, and labor union noncollegiate organizations, providing information for educational officials to consider when granting credit to students for learning acquired in noncollegiate programs. Courses must present college-level material, with extended classroom-based courses containing at least 30 hours of instruction and intensive courses being at least 35 hours in duration. All courses must provide an appropriate method for evaluating student performance, and correspondence and independent study courses must provide a supervised final examination. Courses are organized and indexed alphabetically under their sponsoring organizations. The organizations are described and each course exhibit provides information on the title, course number, location, length, dates, objective, instruction, and credit recommendation. The recommendation involves: (1) categories of credit, including vocational certificate, lower division baccalaureate/associate degree, upper division baccalaureate, graduate degree; (2) semester hours; (3) subject area(s); and, (4) date of review. Information regarding project background, the review process, questions and answers for students, questions and answers for administrators and faculty, and use of the guide is provided. Appended material includes a list of evaluators and project policies and procedures. (LH)

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A GUIDE TO EDUCATIONAL PROGRAMS IN NONCOLLEGIATE ORGANIZATIONS

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PROJECT ON NONCOLLEGIATE SPONSORED INSTRUCTION

AMERICAN COUNCIL ON EDUCATION

THE UNIVERSITY OF THE STATE OF NEW YORK

JANUARY 1976 EDITION

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A GUIDE TO EDUCATIONAL PROGRAMS IN NONCOLLEGIATE ORGANIZATIONS

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The American Council on Education and The University of the State of New York wish to thank those persons and organizations who have contributed to this second edition of *A Guide to Educational Programs in Noncollegiate Organizations.*

The activities of the Project on Noncollegiate Sponsored Instruction are funded by the Carnegie Corporation of New York and the Fund for the Improvement of Postsecondary Education of the Department of Health, Education, and Welfare. We are pleased to join with these organizations in broadening educational options for students of all ages.

Special acknowledgment is given to the Joint Advisory Board which has provided guidance and advice in the development of the Project. The members of the Board are: Janet Beck, Coordinator of Continuing Education, State University College at Brockport, New York; Martha Church, President, Hood College, Frederick, Maryland; J. Douglas Connor, Executive Secretary, American Association of Collegiate Registrars and Admissions Officers; Harold Delaney, former President, Manhattanville College, Purchase, New York; Frank G. Dickey, Provost, University of North Carolina at Charlotte; Ersa Poston, Commissioner, New York State Civil Service Commission; Lindon E. Saline, Manager, Corporate Education Services, the General Electric Company; and Ethel Walsh, Commissioner, U.S. Equal Employment Opportunity Commission.

The value and usefulness of the credit recommendations found in the *Guide* are a result of the careful judgment and experience of the subject matter experts who served as evaluators (see Appendix A). We are indebted to them for their thorough and thoughtful analyses of noncollegiate courses and programs.

Many educational institutions and noncollegiate organizations provided important assistance to the Project in suggesting individuals to serve as evaluators. The Council acknowledges in particular the cooperation of the following organizations: American Alliance of Health, Physical Education and Recreation; American Assembly of Collegiate Schools of Business; American Association of Community and Junior Colleges; American Society for Engineering Education; Council on Postsecondary Accreditation; National Council of Graduate Schools in the United States; National University Extension Association; and the University and College Labor Education Association.

The University is especially indebted to the administrators and faculties of the colleges and universities in New York State and to the following organizations: American Society of Mechanical Engineers; Council of Deans of Engineering Schools in New York State; Criminal Justice Educators Association of New York State; Institute of Electrical and Electronic Engineers; Mid-Atlantic Association of Colleges of Business Administration; and the Consortium of Rochester Area Colleges.

The project presented or reported herein was performed in part pursuant to a Grant from the Fund for the Improvement of Postsecondary Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the Fund and no official endorsement by that agency should be inferred.

FOREWORD

There is a growing conviction in our society that the world of education and the world of work are far too isolated from each other. We believe that the Project on Noncollegiate Sponsored Instruction will help to bring these two worlds into a more productive relationship by focusing on education in the workplace—a vast enterprise where some 13 million people receive formal instruction each year. The Project links postsecondary education and noncollegiate organizations, including business and industry, government, and labor unions, by evaluating educational programs and courses sponsored by these organizations and establishing appropriate credit recommendations for them. Thus, the many persons participating in these high quality programs and courses are being assisted in gaining academic recognition for the learning they have acquired.

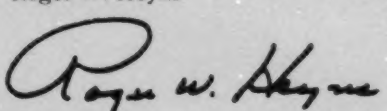
This endeavor, a joint undertaking of the New York State Board of Regents and the American Council on Education, is the first such project at the national and state levels in the United States. It grows out of the commitment of both agencies to the goal of increasing access to postsecondary education throughout a person's lifetime. For this purpose the Regents established a credit-by-examination program in 1963 and, more recently, the Regents External Degree Program. Since 1945 the Council has administered a system for review of formal military courses to assist colleges and universities in granting credit to millions of veterans who take advantage of the G.I. Bill for college study. Those familiar with the Council's *Guide to the Evaluation of Educational Experiences in the Armed Services* will note close similarities in the policies and processes of that activity and this project.

Over the past year and a half the Project has made substantial progress in evaluating various types of courses from a wide range of organizations. This *Guide* lists over 600 courses sponsored by 38 organizations and conducted throughout the United States. In addition, a sound and workable set of criteria and procedures has been developed for the evaluation system. As a result, the recommendations found in the *Guide* provide postsecondary institutions with reliable standards on which to base credit awards. Moreover, these institutions may well attract and motivate more adult learners to enroll as full- or part-time students if they grant academic recognition for the knowledge and competencies the students have acquired in these kinds of educational programs.

In the future the Project will continue to expand its evaluation system and more widely disseminate information about its activities in order to foster increased cooperation between work and education and to broaden educational options for students. Also, other states interested in cooperating in such a review system will be able to build on the experience gained in the Project.

As we move forward with the development of this important Project we welcome the advice and support of the education community in order to increase educational opportunities for adult students.

Roger W. Heyns



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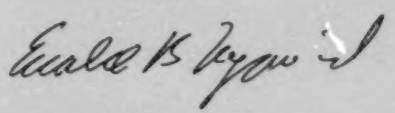

President of The University
of the State of New York and
Commissioner of Education

January 1976

Statement to Members by American Association of Collegiate Registrars and Admissions Officers

The American Association of Collegiate Registrars and Admissions Officers has worked consistently over many years with the American Council on Education's Commission on Educational Credit (formerly known as the Commission on Accreditation of Service Experiences) to further the concept of credit recognition for nontraditional types of educational experiences.

AACRAO feels a special relationship therefore to the Project on Noncollegiate Sponsored Instruction, a cooperative activity of the American Council on Education and the New York State Board of Regents. The Project has extended the credit recognition concept to educational programs sponsored by noncollegiate organizations such as business, industry, government, professional and voluntary associations, and labor.

A Guide to Educational Programs in Noncollegiate Organizations is a particularly timely publication as working adults pursue collegiate education in increasing numbers. The *Guide* should be of valuable assistance to institutions that are formulating policies on the award of credit for noncollegiate courses. AACRAO recommends that educational institutions utilize this *Guide* when making decisions on the award of credit for off-campus learning.

Garland G. Parker, President
American Association of Collegiate
Registrars and Admissions Officers

October 1975

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BACKGROUND

The Project on Noncollegiate Sponsored Instruction is a joint program of the American Council on Education and The University of the State of New York, which began in the summer of 1974. The purpose of the Project is to review formal educational programs and courses sponsored by noncollegiate organizations and to make appropriate credit recommendations for the courses evaluated. These organizations, whose primary function is not education, include business and industry, labor unions, professional and voluntary associations, and government agencies. The credit recommendations are intended to guide colleges and universities as they consider awarding credit to persons who have successfully completed noncollegiate sponsored instruction. In this way students will be assisted in receiving academic recognition for the learning gained in the courses.

The Project is based on the position that it is sound educational practice to grant academic credit for quality educational programs conducted by noncollegiate organizations, provided that the courses are at the college level, and the credit is appropriate to an individual's educational program. Moreover, experience has shown that the award of credit for prior learning will in many cases motivate students to enroll in formal postsecondary programs of study.

The first step in the development of the Project came in January 1974 when The University of the State of New York initiated a pilot study. This study adapted the procedures and criteria that the American Council on Education has used since 1945 in evaluating formal military courses, and tested their applicability to the review of similar nonmilitary courses. During this preliminary stage, evaluations were made of 102 courses sponsored by eight organizations located in New York State. In the process, credit recommendations were established when courses were found to be at the college level, and the components of a model for a national/state review system were identified. The results of the pilot study were published in December 1974 in the first edition of *A Guide to Educational Programs in Noncollegiate Organizations.*

This second edition of the *Guide,* the first joint publication of the Project, reports on courses reviewed during the period from November 1974 to October 1975. Descriptions of the courses reviewed during the pilot study are also included. The *Guide* will be continually updated and published on a regular basis to include new credit recommendations established through the review system. The *Guide* is made available to postsecondary institutions and noncollegiate organizations throughout the nation.

The American Council on Education is nationally recognized as a major coordinating body for postsecondary education. Within the Council, the Project is administered by the Office on Educational Credit (OEC). The Office, which was known until 1974 as the Commission on Accreditation of Service Experiences, is concerned with postsecondary credit policies and practices, and with the recognition of learning that occurs outside the supervision of postsecondary institutions. Under the policy direction of the Commission on Educational Credit, OEC makes credit recommendations for military courses, formulates recommendations regarding the College-Level Examination Program (CLEP), and administers the General Educational Development (GED) Testing Service. More recent activities of the Office, besides the Project on Noncollegiate Sponsored Instruction, include a study of awarding credit based on skills, competencies, and knowledge required for proficiency in Army military occupational specialties (MOS) and determining whether certification, licensure, and registration credentials offer a valid basis for granting educational credit.

The University of the State of New York is the most comprehensive educational organization in the nation. It encompasses and has responsibility for all educational concerns in the State, including private and public higher institutions, elementary and secondary schools, museums, libraries, historical societies, and other agencies whose primary function is education. The Regents and their commissioner determine the State's educational policies and establish standards for maintaining quality schools. Among other things, they charter educational institutions and organizations, approve and supervise academic programs leading to college degrees, and regulate the preliminary education requirements for admission to the practice of most professions in the State. The New York State Education Department is the executive and administrative arm of the Board of Regents of The University of the State of New York. The Project is administered by the Depart-

ment's Office on Noncollegiate Sponsored Instruction. Within the Project, the American Council on Education is responsible for activities relating to noncollegiate organizations and postsecondary institutions nationally, while the State Education Department functions within New York State. Both operate under jointly established policies and procedures approved by both the Commission on Educational Credit and the Board of Regents.

THE REVIEW PROCESS

The credit recommendations in this *Guide* are established through a thorough and objective evaluation process. The following description is provided to enable users of the *Guide* to understand this process. A more detailed explanation of the evaluative policies and procedures followed in the Project will be found in the Appendix to the *Guide*.

Noncollegiate organizations participate in the Project on a voluntary basis. Each sponsoring organization selects courses for review with the assistance of Project staff. Only educational programs or courses conducted on a formal basis and with official approval of the sponsoring organization are considered for review. Informal training or job experience is not reviewed.

Courses must present what is thought to be college-level material. Classroom-based courses conducted over an extended period of time must contain at least 30 hours of instruction; those offered on an intensive basis must be at least 35 hours in duration. Such courses must have a prescribed program of instruction and be taught by qualified instructors. All courses must include an appropriate method of evaluating student performance. In the case of correspondence and independent study courses, there must be supervised final examinations administered under secure conditions.

Organizations supply the following information for each course submitted for review:

1. A syllabus describing the objectives and content of the course.
2. Instructional materials used (textbooks, audio-visual materials, case studies, etc.)
3. Procedures used for measuring the performance of students in the course and samples of the evaluation procedures.
4. Criteria and procedures by which instructors are selected.
5. Educational background and work experience of the students taking the course.
6. Duration of the course.

Each organization also supplies information on the administration of its educational activities, including an explanation of procedures for course development and revision, of procedures for recordkeeping and reporting, and of controls to insure uniformity of quality and course content when a course is offered in several locations.

Review teams are normally composed of three to five persons who are selected from college and university faculties and from noncollegiate organizations. They are selected on the basis of their knowledge and experience in the subject area of the courses to be reviewed. Evaluators are suggested by postsecondary institutions, professional and educational associations, and noncollegiate organizations. (A list of evaluators is found in Appendix A.)

Review sessions are usually conducted at the location of the organization offering the courses. Organizational staff members familiar with the courses are available to answer questions that may arise during the review of the course materials. After a thorough review of all the information and materials supplied by the organization, the team members first decide if a course is at the college level. If it is, they then determine the category of credit (described in the section "How to Use the Guide"), the number of credit hours, and the appropriate subject area or areas to recommend. Whenever the team establishes a credit recommendation for a course, it has determined that the method of assessment is adequate to judge that students successfully completing the course have mastered the subject matter. The team members also review each course exhibit (the description of the course that will appear in the *Guide*) to insure that it adequately describes the course.

In some cases, the team may evaluate together a group of two or more related courses which individually are too short to be eligible for review. If appropriate, a single credit recommendation is established for the group of courses and it applies only when a student has completed all of them.

In other cases, the team may recommend that no academic credit be granted. Reasons given for failure to recommend credit have included: (1) the course is too limited in scope or too highly technical to be comparable to college programs; (2) the material presented in the course is not at the college level; (3) adequate evaluation of student performance is lacking; and (4) insufficient material is presented on which to base a judgment. Courses for which credit recommendations are not made are not listed in the *Guide*.

QUESTIONS AND ANSWERS FOR STUDENTS

How are the credit recommendations used? Primarily to obtain college credit or advanced college placement. It may also be possible to use the credit recommendations for entry into new areas of employment, for job advancement, to obtain salary benefits, and for personal assessment.

Is college credit automatically earned when someone successfully completes a course listed in the GUIDE? No. Successful completion of such a course results in actual course credit only when the course is accepted toward a degree at a postsecondary institution. If you have already taken one of the courses listed in the *Guide*, or plan to take one, you are advised to contact the admissions office at the college in which you are interested to determine the acceptability of the course for academic credit.

How many credits is each course worth? The recommended number of credits for each course is listed at the end of each course exhibit. This recommendation is made by a team of subject matter experts when it has determined that a course is at the college level.

These are recommended credits. A college is not required to grant a student credit in the amount recommended by the reviewers nor, in fact, is a college limited to that amount should it feel that a person's performance in the course deserves additional credit.

Are policies for granting credit the same in all colleges? No. Each college sets its own policies, and these vary from college to college. Some colleges may refuse to grant credit for successful completion of a course conducted by a noncollegiate organization for which another college would grant credit. It should also be noted that a college may not grant credit but may, instead, waive a prerequisite or a required course.

Each institution and, in many cases, each academic unit and department within each institution, sets its own policies for granting credit. The admissions office in a college should be able to guide you to the appropriate official responsible for making the decision for granting credit.

Is credit awarded for courses listed in the GUIDE as "good" as credit earned on a campus? Yes. When an institution grants you credit for a course sponsored by a noncollegiate organization, this credit has as much value toward a degree as does credit earned through regular college courses.

How much credit may be earned from courses taken in noncollegiate organizations? Institutions have different policies regarding the amount of credit that may be earned off-campus. You should check with the college you are planning to attend to determine both the amount of credit which will be granted for such courses and the subject areas in which the college will grant credit for these courses.

When will credit be awarded? In most cases a person should apply for credit when formally applying for admission to a college. Some colleges may grant credit only provisionally at that time and withhold full credit until the student successfully completes either some courses they offer or a specific number of credits.

Can credit be earned for a course completed in the past or taken from a former employer? Yes. The credit recommendation established for each course described in the *Guide* can be used by anyone who successfully completed the course during the period listed in the "Dates" section of each course exhibit. When "Present" is given as the second date, this indicates that the course is still being offered by the organization as of the publication date for this edition of the *Guide*. Each organization listed in the *Guide* keeps records of its present and former employees who completed the courses during the periods indicated and will supply them upon request.

Is there a minimum acceptable performance level before credit will be awarded? Yes. A college will consider granting academic credit to a student for a course only after it has received an official record from the sponsoring organization verifying that the person *successfully* completed the course.

How are student records for courses listed in the GUIDE reported to colleges? The organization sponsoring a course you have completed will provide an official record at your request. The official record will enable a college official to verify that you successfully completed the course and the date of completion. The source of official student records for each organization is noted in the introduction under each organizational heading.

How are courses listed in the GUIDE selected for review? Each sponsoring organization selects the courses it would like to have reviewed with the assistance of the Project staff. Individual students may not submit courses for review. Only educational programs conducted on a formal basis and with official approval of the sponsoring organization are listed in this *Guide.*

Can one earn credit for courses offered by non-collegiate organizations but not listed in the GUIDE? Yes. Some institutions will evaluate students' knowledge individually, often by means of examinations. There are also nationwide proficiency examination programs which may be used to validate study in courses not listed in the *Guide.* A growing number of colleges and universities accept credits earned through these examinations. The College Entrance Examination Board administers the College-Level Examination Program (CLEP). To obtain more information on CLEP write to:

College-Level Examination Program
P.O. Box 1821
Princeton, New Jersey 08540

The New York State Education Department administers the College Proficiency Examination Program (CPEP) and the Regents External Degree Examinations (REDE). For more information on these programs write to:

The New York State Education Department
RED-CPE Program, Room 1919
99 Washington Avenue
Albany, New York 12230

Should the applicant receive special consideration for education gained in noncollegiate organizations? Credit for those courses evaluated by the American Council on Education (ACE) and the New York State Education Department (New York State) should be considered on the same basis as credit accepted by transcript from another institution. In this connection, institutions generally will require the applicant to furnish full information about previous college-level studies and a proposed future program of study before granting credit for such courses.

Are the credit recommendations advisory only? Yes. Each institution is free to accept, modify, or reject them as it sees fit. The recommendations are made in accordance with criteria jointly established by ACE and New York State. They are based on consultants' review of content, level of complexity, educational quality, and objectives of the programs and courses of the noncollegiate organizations.

How should a grade from a noncollegiate organization be interpreted? Grading systems vary widely among noncollegiate organizations. Most organizations award certificates of successful completion on a pass/fail basis, and no attempt has been made to convert them to traditional grading systems. A recommendation of academic credit for a course taken in a noncollegiate organization should, therefore, be interpreted as being applicable when the student presents official evidence of having successfully completed or passed the course.

How should credit recommended for educational programs in noncollegiate organizations be applied to the individual's program of study? ACE and New York State believe that credit can be validly granted in either required or elective areas, provided the particular course and credit recommendation are appropriate to the individual's program of study.

What credit should be granted if the educational program in a noncollegiate organization duplicates specific courses in a postsecondary institution? In these instances credit for a course taken in a noncollegiate organization should be granted only if the student has not completed a comparable college course. Most often, however, these educational programs do not exactly duplicate college courses, but do contain instruction applicable to a general area of collegiate study. In such cases credit can be granted toward required or elective courses in the area, depending on the instructional program at the institution and the specific educational objectives of the individual.

What credit should be granted when the applicant has completed several courses in a noncollegiate organization which are apparently in the same subject area and at the same level? An appropriate official should carefully review the descriptions of all courses in the same subject area which the person has completed and for which credit is recommended. If it appears that instruction is duplicated among the several courses, officials may wish to apply the credit recommendations so as to avoid granting duplicate credit for the courses.

What is the maximum amount of credit that should be granted for courses taken in noncollegiate organizations? ACE and New York State take the position that the amount of credit granted should be appropriate to the individual's educational background and goals, and to the policies of the institution. Thus, the maximum amount of credit awarded for courses taken in noncollegiate organizations will vary according to individual circumstances.

Should the applicant present official records proving successful completion of an educational program conducted by a noncollegiate organization? Educational institutions should require the applicant to verify the fact that he or she has successfully completed such a program or course by having official records submitted. The introduction for each organization listed in the *Guide* indicates the appropriate source of official student records.

HOW TO USE THE GUIDE

This *Guide* is intended for use in the academic counseling of students. The credit recommendations and course descriptions provide information for education officials to consider when granting credit to students for learning acquired in noncollegiate organizations.

In order to make the best use of the *Guide*, careful consideration should be given to this section. It explains the types of courses which may be found in the *Guide*, how to locate a particular course exhibit, how to interpret course exhibits, how the credit recommendations might be used, and how to receive assistance from the ACE and New York State Project offices.

The courses listed in the *Guide* represent only a small sample of the educational programs conducted by the participating organizations. In addition, many other organizations in the United States conduct a wide range of quality educational programs for their employees or members. These are not included in this edition of the *Guide* because they have not been submitted for review. Readers are cautioned against making adverse judgments on the educational programs of any noncollegiate organization merely because they are not listed in the *Guide*. Students who have completed such unlisted courses should be given every consideration in accordance with institutional policies and practices.

It is the policy of the Project to include in the *Guide* only those courses for which credit recommendations have been made. However, the Project will inform college officials, upon request, if a particular course for one of the participating organizations was reviewed and no credit recommended.

How To Locate A Course Exhibit

Each course in the *Guide* is listed in the index and in the text alphabetically by title under the name of the organization that offers it. Therefore, it is necessary to identify the sponsoring organization before a course can be located. In some cases, a group of courses that form an integrated program are reviewed; these courses and a paragraph describing the program are listed alphabetically under the title of the program.

How To Read A Course Exhibit

After each organizational heading there is an introduction that provides general information about the organization, its training and educational activities, and the source of official records of student performance in its courses. Following the introduction, each course exhibit identifies the course and provides specific information about the course content and the credit recommendation.

Each course exhibit provides the following information:

Title: Official course title used by the organization. In some cases, an additional title or subtitle has been assigned by the review team for purposes of explanation and clarity; this title, listed in parenthesis below the official title, is not used by the organization.

Course Number: Official course number, when provided by the organization, in parenthesis following the course title.

Location: The site(s) where the course is offered. Correspondence and independent study courses are identified as such.

Length: Duration of the course in contact hours and, when appropriate, in days or weeks. The length is followed by any additional relevant information describing the course. The term "residential" indicates that the students reside at the location where the course is given for the duration of the course. Correspondence and independent study courses are identified as such.

Dates: The beginning and ending dates of the course, expressed by month and year. The dates cover the period during which the course has been offered with substantially the same content and procedures as at the time of its review; the credit recommendation applies to a person who successfully completed the course during that period. The first date indicates the time from which the recommendation first applies; the second, the time at which the recommendation ceases to apply. When "Present" is given as the second date, it indicates that the recommendation applies as of the publication date for this edition of the *Guide*. Project policy is to backdate a credit recommendation no more than 10 years prior to the review date.

Objective: The purpose for which the course is offered.

Instruction: A description of the major topics covered and teaching methods, materials, and equipment used. Together, the objective and instructional

description supplement the credit recommendation by providing essential information about the nature of the course.

Credit recommendation: The category of credit, the number of semester hours recommended, the appropriate subject area(s), and the date reviewed.

1. *Categories of Credit:*

   a. Vocational Certificate. This category includes course work normally found in year-long certificate programs which are designed to provide students with occupational skills; in many two-year institutions, they are also found in curricula leading to associate degrees in technical programs. Course content is specialized, and the accompanying shop training emphasizes procedural rather than analytical skills.

   b. Lower Division Baccalaureate/Associate Degree. This category includes course work found in programs leading to the Associate in Arts, Associate in Science, and Associate in Applied Science degrees and introductory-level course work normally found in baccalaureate programs. Emphasis is on learning basic principles that have broad, judgmental application.

   c. Upper Division Baccalaureate. This category includes course work usually completed during the last 2 years of a baccalaureate program. The courses generally involve specialization of a theoretical or analytical nature beyond the introductory level.

   d. Graduate Degree. This category includes course work leading to a graduate degree. The courses tend to be oriented toward independent study, original research, critical analysis, and the scholarly and professional application of the specialized knowledge within a discipline.

   NOTE: In some instances, credit is recommended in more than one category. A decision must be made by the college as to which category of credit best applies to a student's educational program.

2. *Semester Hours:* All credit recommendations are made in semester hours. Credit recommendations are not derived by simple arithmetic conversion of contact hours to semester hours; the review teams base their recommendations on both the range and level of complexity of the subject matter covered and the number of contact hours.

3. *Subject Area(s):* In alphabetical order, the recommended subject area(s) in which credit might be applied. The designation of these general areas does not exclude the application of the credit recommendation to other areas not mentioned in the course exhibit.

4. *Date of Review:* The month and year in which the credit recommendation was established is listed in parenthesis following the subject area(s).

Verifying Student Records

Students who apply for credit for courses conducted by noncollegiate organizations should be required to submit official records to verify that a course was successfully completed. Each organization will supply official records at a student's request. The source of official records for each organization is identified in the introduction following each organizational heading.

Awarding Credit Based on the Recommendations

Course information and credit recommendations are provided in the *Guide* to assist college officials in assessing the applicability of a student's education in a noncollegiate organization to his or her program of study. Actual credits granted will depend on an institution's degree requirements and general policy on granting credit for college-level learning achieved outside that institution.

Credit for each course may be applied to a student's program of study in various ways: (a) applied to the major to replace a required course, (b) applied as an optional course within the major, (c) applied as a general elective, or (d) applied to waive a prerequisite.

Duplication of Credit

Each course listed in the *Guide* is reviewed on the assumption that a student takes only that course. However, since a student may take several courses which are apparently in the same subject area and at the same academic level, institution officials should carefully review the course objective and instructional description in the *Guide* for each course

the student completed and for which credit is requested. If it appears that major topics of instruction are duplicated among the several courses, officials may wish to adjust the credit recommendations in order to avoid granting duplicate credit.

Advisory Service

A continuing advisory service is provided by each Project office. Publication of the *Guide* on a regular basis is part of that service. After each edition of the *Guide* is published, the Project will continue to evaluate courses. The official results of a course review are sent as soon as possible after the review to the sponsoring organization for general distribution to its employees and members. The advisory service will furnish information on these courses awaiting publication and will offer assistance in the interpretation of published results.

The appropriate Project office to contact for assistance in regard to a particular course is indicated after each group of course exhibits. The address of each office is:

Project on Noncollegiate Sponsored Instruction
Office on Educational Credit
American Council on Education
One DuPont Circle, N.W.
Washington, D.C. 20036
Telephone: (202) 833-4770

Office on Noncollegiate Sponsored Instruction
State Education Department
99 Washington Avenue, Room 1845
Albany, New York 12230
Telephone: (518) 474-8592

AMERICAN INSTITUTE OF BANKING

The American Institute of Banking (AIB) is an educational division of the American Bankers Association, the national organization of the banking industry. Its total membership includes some 18,500 banks and branches, about 97 percent of the nation's commercial banks. AIB is part of the Education Group, one of the six working groups of the Association.

AIB has over 500 chapters throughout the United States and more than 100,000 annual enrollments in individual courses. A chapter is organized in a community only if there is assurance that the Institute's work can be carried on from year to year. All activities are initiated by the local chapter, including the choosing of courses and programs, the selection of instructors, and the arrangements for classroom facilities. While chapters work in cooperation with the national AIB office, each chapter is administratively autonomous. As a result, credit recommendations established for courses offered by a specific chapter apply only to that chapter.

AMERICAN INSTITUTE OF BANKING—BUFFALO CHAPTER

The Buffalo Chapter of the American Institute of Banking (AIB) provides academic and professional courses in contemporary areas of banking activity for employees of 23 banking institutions in western New York. Day and evening instruction is provided.

The courses listed below constitute the majority of the offerings within the Chapter's Standard Certificate Program and the Graduate Study Program. These programs blend academic and technical banking curricula frequently not duplicated in collegiate or vocational institutions. Courses are offered in three major areas: Banking Functions, Management, and General Business. These courses are taught in classrooms provided by colleges located throughout the Buffalo area.

Please note that the credit recommendations listed below apply *only* to courses offered by the Buffalo Chapter of AIB.

Source of official student records: Educational Administrator, American Institute of Banking, 310 Marine Trust Building, 237 Main Street, Buffalo, New York 14203.

Accounting I (ACC 110)

Length: 45 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide the student with an understanding of the fundamentals of accounting theory and practice.

Instruction: Fundamentals of accounting theory; accounting records; financial statements; banking procedures; reconciliations; special journals.

Credit recommendation: in the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (2/75).

Accounting II (ACC 111)

Length: 45 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide the student with an advanced understanding of the principles and practices of accounting.

Instruction: Continuation of Accounting I (ACC 110). Partnership and corporate organization; department accounting; inventory; fixed assets and depreciation; accrual bases of accounting and adjustment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (2/75).

Agriculture Finance (FIN 532)

Length: 45 hours (15 weeks).

Dates: January 1969—December 1971.

Objective: To familiarize the student with the characteristics of agriculture as an industry and with the principles and practices used in the extension of credit to farmers.

Instruction: Livestock and poultry financing; crop financing; capital loans; agribusiness; management of the farm loan portfolio; business development; sources of agricultural information.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Agricultural Economics (1/75).

Analyzing Financial Statements (ACC 112)

Length: 45 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide the student with an understanding of the characteristics of financial statements and procedures of analysis.

Instruction: The principles and policies involved in the appraisal of credit risks by analysis of accounting statements of financial condition. Concepts, characteristics, and tools of financial statements; financial statement analysis (ratio analysis, liquidity analysis, and earnings analysis); balance sheets and operating statements; tests used in appraising financial statements of various industries as a basis for credit.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting, Economics, or Finance (2/75).

Bank Management by Objectives (MGT 504)

Length: 20 hours (8 weeks).

Dates: January 1970—Present.

Objective: To provide the student with an understanding of the principles of management by objectives.

Instruction: Basic concepts of management by objectives using the case method approach. (Prerequisite: a course in management organization theory or the equivalent.)

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Business Administration or Management (2/75).

Bank Public Relations and Marketing (BUS 226)

Length: 45 hours (15 weeks).

Dates: January 1968—Present.

Objective: To provide the student with an understanding and appreciation of the public relations and marketing function in banking.

Instruction: The basics of internal and external bank public relations. Function and structure of bank public relations and marketing; staff; internal communications; publicity; advertising; marketing; selling; the officer call program; community relations; relations with competitors.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Marketing or Public Relations (1/75).

Business Communication by Letter and Memo (ENG 403)

Length: 45 hours (15 weeks).

Dates: January 1970—Present.

Objective: To enable the student to write professional letters and memos.

Instruction: Fundamental writing skills and principles as applied to modern business correspondence. Letters of refusal; credit refusals; sales letters; collection letters; business memos.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Communications (2/75).

Business Math (BUS 122)

Length: 45 hours (15 weeks).

Dates: January 1971—Present.

Objective: To provide the student with a background for the solution of business problems by mental and longhand computation.

Instruction: Basic application of mathematics to business problems. Personal banking records; inventory and turnover; charges for credit; sales activities and records; depreciation; discount and interest; promissory notes; interest variables; securities transactions. Workbook exercises are used with each lesson.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration (2/75).

Commercial Lending (FIN 539)

Length: 30 hours (12 weeks).

Dates: October 1973—Present.

Objective: To teach the student management skills in the lending procedure.

Instruction: The loan interview; loan decisions and techniques; documentation for the credit file; problem loans; managing the loan portfolio. Course material is presented through workshops and case study problems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Finance, or Management (1/75).

Corporate Finance (FIN 531)

Length: 45 hours (15 weeks).

Dates: January 1973—Present.

Objective: To develop an understanding of the ways in which businesses finance their incorporation and continuing operations.

Instruction: The nature, functions, and management of the corporation; sources of financing; efficient utilization of funds by corporations; management of assets and liabilities; cost of capital; capital structure, present value, and capital budgeting; consideration of external economic forces that influence the corporation finance process. Emphasis on qualitative and quantitative tests as applied to corporate financial performance.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Finance (2/75).

Credit Administration (FIN 534)

Length: 45 hours (15 weeks).

Dates: January 1971—Present.

Objective: To provide the student with a basic understanding of credit administration.

Instruction: The principles of credit and loan administration. Working capital loans; secured loans; term loans; real estate loans; credit investigation; the responsibilities of the bank lending officer.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Banking, Finance, or Management (1/75).

Effective English for Business Communication (ENG 401)

Length: 45 hours (15 weeks).

Dates: January 1970—Present.

Objective: To enable the student to develop effective communications skills.

Instruction: Development of skills necessary to master effective business communication. Correct grammatical usage; transactional analysis; mass communications; sales messages.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Communications (2/75).

Effective Speaking (ENG 402)

Length: 45 hours (15 weeks).

Dates: January 1965—Present.

Objective: To enable the student to develop effective oral communication skills.

Instruction: The acquisition of basic skills and confidence needed to speak effectively; introduction to the behavioral principles underlying effective oral communications. The organization of content; building self-confidence and poise; the use of body and voice mechanisms as effective tools of thought communication. Instructor/group discussion and evaluation are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Communications or English (2/75).

Fundamentals of Bank Data Processing (BUS 123)

Length: 45 hours (15 weeks).

Dates: January 1968—Present.

Objective: To provide the student with the basic concepts of electronic data processing with special reference to bank automation.

Instruction: Survey of data processing and computer concepts; punched card data processing equipment and programming; data recording, storage, processing, input, and output; computer programming (flowcharting and coding). A visit is made to a Bank Data Processing Center to observe the work flow and operation of punched card and computer equipment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electronic Data Processing (2/75).

Home Mortgage Lending (FIN 235)

Length: 45 hours (15 weeks).

Dates: January 1968—Present.

Objective: To provide the student with an overview of the home mortgage investment area of savings and commercial banks; to provide an understanding of the mortgage market and the operations of the mortgage department.

Instruction: An introduction to the mortgage field; the mortgage market; the mortgage portfolio; appraisal; credit analysis; legal aspects; the processing and servicing of the mortgage.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Banking or Finance (1/75).

Instalment Credit (FIN 236)

Length: 45 hours (15 weeks).

Dates: January 1968—Present.

Objective: To provide the student with basic knowledge of instalment credit and its administration.

Instruction: Instalment credit; the techniques of instalment lending; establishing credit; obtaining and checking information; servicing the loan and collecting the amounts due; inventory financing; special loan programs; business development and advertising; the public relations aspect of instalment lending.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Banking or Finance (1/75).

International Banking (ECO 243)

Length: 45 hours (15 weeks).

Dates: January 1969—Present.

Objective: To provide the student with an understanding of the fundamental concepts of international banking, the services performed by the international departments of commercial banks, and the operation of global credit.

Instruction: The world of international banking; organization and major operations of international departments of commercial banks; credit instruments; principles of international credit agencies.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Economics or Finance (1/75).

Introduction to Bank Management (MGT 303)

Length: 45 hours (15 weeks).

Dates: January 1968—Present.

Objective: To provide the student with an understanding of the philosophy and organization of bank management and its place in society.

Instruction: Bank organization, operations, and management from the perspective of management. Planning; staffing; controlling; source and use of bank funds; the loan portfolio; the trust function; the bank industry in relation to regulatory agencies and society.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Business Administration or Management (2/75).

Introduction to Business (BUS 121)

Length: 45 hours (15 weeks).

Dates: January 1970—Present.

Objective: To provide the student with an overview of business organizations in a free enterprise system.

Instruction: A general overview of the types and structures of business organizations; the marketing function; the legal and regulatory environment; business and society; personnel administration and labor relations; production and finance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration (2/75).

Law and Banking (BUS 124)

Length: 45 hours (15 weeks).

Dates: January 1971—Present.

Objective: To provide the student with the basic concepts of business law as applied to the banking industry.

Instruction: Introduction to law and the Uniform Commercial Code. Jurisprudence; the court system; contracts; property torts; agencies; partnerships; corporations; sales of property; commercial paper; bank deposits.

Credit recommendation: In the lower division baccalaureate/associate degree cateogry or in the upper division baccalaureate category, 3 semester hours in Business Administration or Law (2/75).

Loan and Discount (FIN 237)

Length: 45 hours (15 weeks).

Dates: October 1974—Present.

Objective: To train bank personnel in the function performed by the discount (note) teller.

Instruction: Essential elements of the loan and discount function. Promissory notes; discounting commercial paper; guarantees; collateral agreements; notes secured by stocks, bonds, and savings accounts passbooks; the concepts of attachments perfection, priority, default, and foreclosure.

Credit recommendation: In the vocational certificate category, 3 semester hours in Banking (1/75).

Management Policies for Commercial Banks (MGT 511)

Length: 48 hours (12 weeks).

Dates: January 1974—Present.

Objective: To provide the student with an understanding of the concepts, functions, and structure of the banking organization in relation to policy formulation.

Instruction: Determination of the function and structure of commercial banking. Risk; capital management; deposit and liquidity management; lending and investment function; auditing; personnel function; marketing and management of commercial bank funds. A computerized commercial bank management simulation game is part of the course.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (2/75).

Managerial Accounting (ACC 513)

Length: 45 hours (15 weeks).

Dates: January 1972—Present.

Objective: To provide the student with an understanding of the interpretation of accounting data in the planning and managing of business activities.

Instruction: Structure, concepts, and process of accounting; preparation, analysis, and use of financial statements; techniques for measuring assets, liabilities, equity, income, and expenses; use of accounting data for budgetary planning and control systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting or Business Administration (2/75).

Money and Banking (ECO 143)

Length: 45 hours (15 weeks).

Dates: January 1967—Present.

Objective: To provide the student with an understanding and appreciation of the function of money, credit, and the banking system in a modern economy.

Instruction: Basic monetary theory. Currency; the banking process; the Federal Reserve System; money and the national income; business cycles; monetary and fiscal policies.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Economics (2/75).

Practical Lending and Credit (FIN 536)

Length: 36 hours (12 weeks).

Dates: February 1972—Present.

Objective: To present a case study approach to commercial loan analysis.

Instruction: Commercial loan principles and operations; credit and credit policy; analysis of financial statements; ratios and comparative analysis; analysis of the ability to generate cash.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance (1/75).

Principles and Techniques of Management (MGT 506)

Length: 16 hours (8 weeks).

Dates: January 1973—Present.

Objective: To provide the student with an understanding of management organization and theory in relation to techniques of setting performance standards and conducting the appraisal interview.

Instruction: Management theory in relation to writing position descriptions, setting standards of performance, and the performance appraisal interview. Course is designed around case problems, role playing, filmed case studies, and filmed and live lectures.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Business Administration or Management (2/75).

Principles of Bank Operations (BNK 101)

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide the student with an understanding of the nature and purpose of the various functions of bank operations.

Instruction: Broad perspective of banking operations necessary for career planning and development. The economic importance of banks; bank services; the operations of a bank; government regulations.

Credit recommendation: In the vocational certificate category, 3 semester hours in General Business (1/75).

Principles of Bank Operations Advanced (BNK 504)

Length: 30 hours (15 weeks).

Dates: January 1973—Present.

Objective: To provide the beginning banker with a broad perspective of banking operations necessary for career development.

Instruction: Accelerated version of Principles of Bank Operations (BNK 101) designed for the management trainee. The economic importance of banks; the receiving function; bookkeeping operations; collection services; legal relations with depositors; negotiable instruments; savings and time deposit function; management of bank funds; internal controls; commercial bank services.

Credit recommendation: In the vocational certificate category, 2 semester hours in General Business (1/75).

Principles of Economics I (Macro) (ECO 141)

Length: 45 hours (15 weeks).

Dates: January 1971—Present.

Objective: To provide the student with an understanding of economic principles necessary to develop an appreciation of modern fiscal and monetary problems.

Instruction: Principles of macroeconomic theory. The economic system; gross national product; employment and fiscal policy; money; banking; monetary policy.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Economics (2/75).

Principles of Economics II (Micro) (ECO 142)

Length: 45 hours (15 weeks).

Dates: January 1975—Present.

Objective: To provide the student with a more detailed knowledge of economics with emphasis on smaller units within the economic system.

Instruction: Principles of microecnomics. Supply and demand; determination of output and prices; current American economic problems; introduction to international economics (determination of currency, rates of exchange, and comparisons among systems).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Economics (2/75).

Principles of Real Estate (FIN 540)

Length: 30 hours (15 weeks).

Dates: January 1973—Present.

Objective: To provide the student with a sound foundation in real estate theories and practices.

Instruction: Introduction to real estate theories and practices. The real estate market; contracts; property ownership; financing; brokerage; valuation; government operations and urban development.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration (2/75).

Principles of Real Estate Appraisal (FIN 541)

Length: 30 hours (15 weeks).

Dates: January 1974—Present.

Objective: To provide the student with basic knowledge of real estate valuation.

Instruction: Introduction to real estate appraising. Cost, market, and income approaches to value; preparing the appraisal report.

Credit recommendation: In the lower division bacalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration (2/75).

Principles of Savings Bank Operations (BNK 102)

Length: 45 hours (15 weeks).

Dates: January 1970—Present.

Objective: To provide savings bank employees

with an overview of the functions and operations of savings banks.

Instruction: Fundamental savings bank operations. The economic function; differences among financial institutions; role of the savings bank; organization and structure.

Credit recommendation: In the vocational certificate category, 3 semester hours in General Business (1/75).

Savings and Time Deposit Banking (BNK 201)

Length: 45 hours (15 weeks).

Dates: January 1968—Present.

Objective: To introduce the student to the significance of savings and time deposits in the financial field.

Instruction: The savings function and its relationship to the economy. The various forms of savings; the impact of interest rates; the role of savings institutions; asset management policies; regulatory agencies; current problems and issues.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Finance (1/75).

Savings Bank Life Insurance (BNK 506)

Length: 16 hours (8 weeks).

Dates: October 1971—Present.

Objective: To prepare students for the New York State Life Insurance Examination necessary to be licensed; to provide the student with a fundamental understanding of the life insurance industry.

Instruction: Principles of life insurance. Types of life insurance; policy contracts; nonforfeiture; settlement options; legal aspects; types of insurance plans; the need for qualified advice.

Credit recommendation: In the vocational certificate category, 1 semester hour in Insurance (1/75).

Supervision and Personnel Administration (MGT 302)

Length: 45 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide the student with an understanding of the basic principles of supervision and administration.

Instruction: Organizational structure; human relations aspects of the supervisory role; communications; recruitment and selection; orientation of the new employee; training and development; motivation; handling of grievance procedures; reports; salary administration and operation.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Business Administration or Management (2/75).

Trust Functions and Services (BNK 503)

Length: 30 hours (15 weeks).

Dates: January, 1971—Present.

Objective: To provide the student with an understanding of the services rendered by institutions engaged in the trust business; to provide an introduction to the functions and services of a corporate fiduciary.

Instruction: Historical background of trust services and institutions; government supervision; specific service functions (property, wills, estates, employee trust, pension trust, institutional trust).

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking or Business Law (1/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

AMERICAN INSTITUTE OF BANKING—CORRESPONDENCE PROGRAM

The American Institute of Banking (AIB) sponsors a correspondence program in contemporary banking subjects for employees of banking institutions in the United States and overseas. The correspondence program is useful to students who need refresher work, to persons desiring courses not offered by their local AIB chapter, and to persons whose schedule permits only independent study.

The AIB National Office provides each student with the official textbook for each course and practical exercises which include aids to more effective study. Bank officers, university professors, and other qualified experts review the course work and provide individual responses to the student. When all exercises have been completed by a student, a bank officer supervises the final examination provided by the National Office. The maximum time allowed for completion of a correspondence course generally is 15 months.

Source of official student records: Director of Education and Training, American Institute of Banking, 1120 Connecticut Avenue, NW, Washington, D.C. 20036.

Accounting, Part I (R001)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1969—Present.

Objective: To provide the student with a basic understanding of accounting theory and practice, including the preparation of financial statements.

Instruction: Fundamentals of accounting theory, including use of journals and ledgers, the preparation of financial statements, accounting for notes and interest, the use of a voucher system, and accounting for partnerships.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (3/75).

Accounting, Part II (R0030)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1967—Present.

Objective: To provide the student with a further understanding of accounting principles and practices, including corporation accounting.

Instruction: A continuation of Accounting I, including corporation accounting, departmental accounting, inventory valuation, plant assets and depreciation, manufacturing cost accounting, and basic statement analysis.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Accounting (3/75).

Analysis of Financial Statements (R0032)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1970—Present.

Objective: To provide the student with an understanding of the concepts and tools of financial statement analysis.

Instruction: The use of ratio analysis, source and application of funds analysis, and earnings analysis to evaluate the financial condition and earnings of business firms, including tests applied in appraising the financial soundness of firms.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Finance (3/75).

Bank Investments (R0033)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1972—Present.

Objective: To provide the student with an understanding of bank investment in marketable securities.

Instruction: This course describes the nature of primary reserves and loanable funds and how their uses are determined. It also analyzes the primary and secondary reserve needs of commercial banks, the sources of reserves, and their random and cyclical fluctuations, and shows the influence of these factors on investment policy. This analysis is followed by a study of yield changes as they affect a bank's long-term holdings.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Banking, Business Administration, or Finance (3/75).

Bank Letters and Reports (R0010)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965—Present.

Objective: To enable the student to write bank letters and reports of acceptable quality.

Instruction: Emphasizes fundamental principles underlying quality correspondence; reviews different types of bank-written communications, such as collection letters, letters pertaining to loans and trusts, and departmental and branch reports.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration or Business Communications (3/75).

Bank Management (R0020)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1970—Present.

Objective: To provide the student with an understanding of the application of management principles to banking.

Instruction: Formulation of objectives, organizational planning and staffing, and management controls with application to bank functions such as loans, investments, and trusts; use of cases to illustrate the application of principles.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Management (3/75).

Business Administration (R0065) (Introduction to Business)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965—Present.

Objective: To give the student an overview of business organizations and how they operate in the United States.

Instruction: An overview of the types and structures of business organizations. Emphasis is placed on the managerial responsibility of coordinating the many facets of a business enterprise. Stresses administration, financial management, production, labor-management relations, marketing, coordination and control, and public relations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration (3/75).

Business Financial Management (R0405)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: December 1974—Present.

Objective: To provide the student with an understanding of the principles and techniques of financial decision making.

Instruction: Determination of the firm's needs for financing; sources of funds, including trade credit, bank loans, and the market for long-term securities; management of working capital, present value analysis and capital budgeting; use of cases to apply the principles and techniques to business finance problems.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Finance (3/75).

Business Mathematics (R0013)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1972—Present.

Objective: To provide the student with skills in business arithmetic and accounting terminology in preparation for a course in accounting principles.

Instruction: This course in quantitative methods is designed for the student who requires refresher

work in the fundamentals of business mathematics. Basic applications of mathematics are examined to develop computations for personal banking records, inventory and turnover, charges for credit, sales activities and records, depreciation, discount and interest, promissory notes, and securities transactions. Workbook problems are used with each lesson.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration (3/75).

Credit Administration (R0034)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1972—Present.

Objective: To provide the student with a basic understanding of credit administration.

Instruction: The principles of credit and loan administration are covered through a survey of working capital loans, secured loans, term loans, real estate loans, credit investigation, and the responsibilities of the bank lending officer.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

Federal Reserve System (R008)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1972—Present.

Objective: To provide the student with a historical perspective and understanding of the basic policies of the Federal Reserve System.

Instruction: This course examines the operations and policies of the Federal Reserve System. The approach taken is topical rather than chronological, thereby enabling students to compare and contrast Federal Reserve policies dealing with similar problems at different periods of time. Attention is given to international monetary affairs and economic developments affecting the American fiscal system.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Economics, or Finance (3/75).

Home Mortgage Lending (R0036)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965—Present.

Objective: To provide the student with an overview of home mortgage investment by savings and commercial banks.

Instruction: An introduction to the home mortgage field; the mortgage market; the mortgage portfolio; appraisal; credit analysis; legal aspects; and the processing and servicing of the mortgage.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Banking or Finance (3/75).

Installment Credit (R0037) (Consumer Credit)

Location: Correspondence, American Institute of Banking National Office.

Length: 13 lessons.

Dates: September 1965—Present.

Objective: To provide the student with a basic knowledge of installment credit and its administration.

Instruction: Techniques of installment lending. Emphasis is placed on establishing credit, obtaining credit information, and loan servicing and collections. Other topics include inventory loans, rate structure, and advertising.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

International Banking (R0052)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1966—Present.

Objective: To provide the student with an understanding of the fundamental concepts of international banking and finance.

Instruction: Basic framework of international banking; foreign exchange; international lending principles; role of international agencies such as the Export-Import Bank, the International Monetary Fund, and the World Bank.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration or Economics (3/75).

Law and Banking (R009) (Business Law I)

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1971—Present.

Objective: To provide the student with a basic knowledge of the concepts of business law.

Instruction: Introduction to law, covering such topics as jurisprudence, the court system, contracts, property, torts, agencies, partnerships, corporations, sales of property, commercial paper, and bank deposits. Emphasis is on the Uniform Commercial Code.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration (3/75).

Management of Commercial Bank Funds

Location: Correspondence, American Institute of Banking National Office.

Length: 15 lessons.

Dates: September 1975—Present.

Objective: To provide the student with an understanding of the principles of funds management in commercial banks.

Instruction: Emphasis is placed on the importance of funds management in coordinating policies on loans, deposits, investments, and capital.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

Money and Banking (R0012)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1965—Present.

Objective: To provide the student with an understanding of basic monetary theory and policy, with emphasis on the function of the banking system in the economy.

Instruction: Structure of the commercial banking system; creation of bank deposits; Federal Reserve policies and operations; Treasury operations in the money market; money and the price level; problems of international finance.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration or Economics (3/75).

Principles of Bank Operations (R0038)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1966—Present.

Objective: To provide the student with an understanding of the fundamentals of bank functions.

Instruction: A survey of bank functions and operations, including teller operations, savings and time deposits, bookkeeping operations, loans and investments, determination of service charges and legal relationships with depositors.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Banking, Business Administration, or Finance (3/75).

Savings and Time Deposit Banking (R0046)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1968—Present.

Objective: To provide the student with an understanding of the savings function in the economy and the administration of time deposits in deposit-type savings institutions.

Instruction: The savings function and its relationship to the economy; the various forms of savings; the impact of interest rates; types of savings institutions; asset management policies; and regulatory agencies.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Banking, Business Administration, or Finance (3/75).

Trust Functions and Services (R006)

Location: Correspondence, American Institute of Banking National Office.

Length: 14 lessons.

Dates: September 1971—Present.

Objective: To provide the student with a basic and fundamental knowledge of the principles and policies underlying the various fiduciary services offered by financial institutions.

Instruction: Survey of all important services and functions of a trust department in a financial in-

stitution; property and property rights, wills, settlement of estates, responsibilities of executors and administrators, personal agencies, corporate agencies, employee trusts, pension trusts, and community and institutional trusts and agencies.

Credit recommendation: In the upper division baccalaureate category, 2 semester in Banking, Business Administration, or Finance (3/75).

Additional information on these courses may be obtained from:
Project on Noncollegiate Sponsored Instruction
American Council on Education

AMERICAN INSTITUTE OF BANKING—NASSAU COUNTY CHAPTER

The Nassau County Chapter of the American Institute of Banking (AIB) provides academic and professional courses in banking for employees of 57 banking institutions in Nassau County.

The courses listed below constitute offerings within the Chapter's Basic, Standard, and Advanced Certificate programs. These programs combine academic and technical banking curricula frequently not duplicated in collegiate or vocational institutions. Courses are offered in three major areas: Foundations of Banking, Banking Functions, and Management and Supervision. These courses are taught in evening sessions in classrooms at Hofstra University.

Please note that the credit recommendations listed below apply *only* to courses offered by Nassau County Chapter of AIB.

Source of official student records: Educational Director, American Institute of Banking, P.O. Box 156, Garden City, New York 11530.

Accounting: Principles and Applications, Part One

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide basic knowledge in accounting principles and procedures.

Instruction: Analysis of transactions; the accounting cycle; special journals and ledgers; end-of-cycle procedures; payroll and control systems; payables and receivables; valuation of other assets; taxes; completion of accounting cycle.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (9/75).

Accounting: Principles and Applications, Part Two

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide advanced knowledge of accounting principles and procedures.

Instruction: Continuation of Accounting: Principles and Applications, Part One. Departmental accounting; partnership accounting cycle; branch and home office accounting; corporate accounting; manufacturing and cost accounting; budgeting, reporting, and statement analysis; review of basic concepts. (Prerequisite: Accounting: Principles and Applications, Part One).

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (9/75).

Bank Management

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide a working knowledge of the new aspects of bank management.

Instruction: Nature and objectives of banking; formulation of objectives and policies; organizational planning; staffing of the organizational structure; management controls; the deposit function; employment of bank funds; the loan function; the bank investment account; the trust function and other service functions; current banking issues; the art of management. Case studies in bank management are used.

Credit recommendation: In the upper division

baccalaureate category, 3 semester hours in Banking or Finance (9/75).

Business Mathematics

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide knowledge of the fundamentals of business mathematics.

Instruction: Arithmetic tools; business documents; payrolls; statistical data and graphs; depreciation; simple interest; time value of money; mathematics of compounding.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Mathematics (9/75).

Credit Administration

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide the student with knowledge of the factors influencing and determining loan policy.

Instruction: Practice and principles of credit administration; methods of credit investigation and analysis; credit techniques; specific credit problems; regular and unusual types of loans.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Banking or Finance (9/75).

Instalment Credit

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide an introduction to instalment credit and its administration.

Instruction: Techniques of instalment lending (establishing the credit, obtaining and checking information, servicing the loan, and collecting amounts due); discussion of inventory financing, special loan programs, business development and advertising, and the public relations aspect of instalment lending.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Banking or Finance (9/75).

Money and Banking

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide basic background to the practical aspects of money and banking, with emphasis on basic monetery theory.

Instruction: Economic stabilization; types of spending; the role of gold; limitations of central bank control; government fiscal policy; balance of payments; foreign exchange; the effect of the above on the yield curve and the structuring of portfolios.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Money and Banking (9/75).

Principles of Bank Operations

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide new bank employees with an understanding of the fundamentals of bank operations.

Instruction: Descriptive, not procedural, presentation of the fundamentals of bank operations.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (9/75).

Principles of Economics

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide background in principles of macroeconomics.

Instruction: Overview of economic institutions; basic principles of market pricing; discussion of managerial economics; national income; monetary policy; economics as a social science.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Economics (9/75).

Savings Bank Organization

Location: Hofstra University, Hempstead, NY.

Length: 45 hours (15 weeks).

Dates: January 1966—Present.

Objective: To provide savings bank employees with an overview of mutual savings banking.

Instruction: History and purpose of savings banks; the trustee concept; departmental operations; rules and regulations of the banking department and the Federal Deposit Insurance Corporation; new accounts, savings department, and safe deposit operations (teller's work, payment problems, on-line computer accounting, payment of interest, and safe deposit rules); auditing and accounting operations; mortgage department; investment department.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (9/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

AMERICAN INSTITUTE OF BANKING — NEW YORK CITY CHAPTER

The New York City Chapter of the American Institute of Banking (AIB) provides academic and professional courses and programs for an adult population composed of employees of approximately 100 banking institutions in New York City. Day and evening instruction is provided in contemporary areas of banking activity.

The courses listed below constitute the Chapter's Standard Program. This program combines academic and technical banking curricula frequently not duplicated in collegiate or vocational institutions. Five specialized areas of study designed for those seeking broad professional banking career development are offered: Commercial, Savings, International Banking, Trusts, and Banking Operations. Courses are taught in the AIB classrooms located at 233 Broadway in New York City, at nearby Pace University, or in facilities provided by banks in the city.

Please note that the credit recommendations apply *only* to courses offered by the New York City Chapter of AIB.

Source of official student records: Office of the Registrar, American Institute of Banking, 233 Broadway, New York, New York 10007.

Accounting Principles

Length: 30 hours (15 weeks).*

Dates: September 1963—Present.

Objective: To provide the student with a basic understanding of accounting terminology, concepts, and practices, especially in reference to basic financial documents of business and banking.

Instruction: Fundamentals of accounting theory and practice. Theory of debit and credit; classification of accounts; principles underlying accounting records; business papers and documents used as the basis of original entry; preparation of balance sheets and income statements; principles and problems of controlling accounts of individual proprietorships and partnerships. Laboratory assistants aid students in completing homework assignments.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Accounting or Finance (5/74).

Bank Accounting

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with basic knowledge of the series of accounting controls that are used for effective internal management of a commercial bank.

Instruction: Principles of accounting as applied to specific functional organizational and operational situations in a commercial bank; effect of accounting requirements on the operating system of a bank; impact of new technology on traditional accounting procedures; bank income and expense accounting; bank costs and the development of internal controls in the accounting routines of a bank.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Accounting (5/74).

Bank Audit and Internal Controls

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with an understanding of good audit practices in effective bank management.

Instruction: Organizing a bank for maximum protection; commercial bank and savings bank internal control and auditing procedures; bank frauds (both nonconcealed and concealed); EDP auditing and internal controls. Case studies of fraud and its detection are utilized.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Accounting (5/74).

Bank Data Processing Fundamentals

Length: 30 hours (15 weeks).

Dates: September 1967—Present.

Objective: To provide the student with basic knowledge of data processing concepts and applications of the computer, with specific reference to the role of automation in banks.

Instruction: Survey of data processing concepts; punched card data processing equipment and programming; computer concepts (data recording, storage, processing, input and output); computer programming (flow charting and coding). A visit to a Bank Data Processing Center is made to observe the work flow and operation of punched card and computer equipment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electronic Data Processing (5/74).

Business Conference Speech

Length: 30 hours (15 weeks).

Dates: September 1968—Present.

Objective: To provide the student with the opportunity to develop effective business communication skills.

Instruction: The acquisition of basic skills and confidence needed to speak effectively; introduction to the behavioral principles underlying effective oral communications. The organization of content; building self-confidence and poise; the use of body and voice mechanisms as effective tools of thought communication. Instructor/group discussion and evaluation are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Communications or Speech (5/74).

Business Psychology

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with an understanding of the role of self, other workers, and work groups in a labor-intensive white collar industry such as banking.

Instruction: General orientation to the field of psychology as applied to business. Self-improvement and work efficiency; human relationships; motivation; leadership; employee counseling, training, and individual mental health.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Applied Behavioral Sciences (5/74).

Business Writing

Length: 30 hours (15 weeks).

Dates: September 1972—Present.

Objective: To provide the student with skill in writing English, with specific emphasis given to business letters, memoranda, and reports.

Instruction: Continuation of the English course listed below. To strengthen mastery of writing skills with the overall goal that such skills be appropriately employed within the context of concise, well-planned business letters, memoranda, and reports. Regular written exercises are used to develop the necessary logical, concise, and orderly habits.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Communications (5/74).

College Mathematics for Business

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with skills in business arithmetic and accounting terminology and concepts in preparation for the course in Accounting Principles.

Instruction: Basic application of mathematics examined to develop a working knowledge of personal banking records; inventory and turnover; charges for credit; sales activities and records; depreciation; discount and interest; promissory notes; interest variables; securities transactions. Workbook problems are used with each lesson.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Mathematics (5/74).

Commercial Bank Organization

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: Within a basic academic program in commercial banking, to provide the student with a fundamental course which presents terminology, documents, and processes of the commercial bank as well as a historical and organizational overview of commercial banking.

Instruction: Overview of the services and functions of a commercial bank through a study of its

components and controls. The banking function; history and development of the commercial banking system; deposit and payment function; loans and investments; other services (money management, international, fiduciary, computerized payroll, and billing); the Federal Reserve System; governmental supervision.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Banking, Economics, or Finance (5/74).

Commercial Letters of Credit

Length: 30 hours (15 weeks).

Dates: September 1969 – Present.

Objective: To provide the student with knowledge of the use of the commercial letter of credit in reference to assignments in international banking and metropolitan banking.

Instruction: Comprehensive view of letters of credit, their purposes, functions, and methods of operation as currently handled in the international departments of banks; import credit; export credit; government credits; refinancing and acceptances. The topic is approached in the framework of the day-to-day processing of letters of credit by banks.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

Consumer Credit

Length: 30 hours (15 weeks).

Dates: September 1963 – Present.

Objective: To introduce the student to marketing concepts and to develop a critical knowledge of consumer credit practices in general and in New York City specifically.

Instruction: History, techniques, operating costs, and present competitive position of each of the principal types of consumer credit institutions; personal loan departments of banks, loan companies, credit unions; qualifications of a good credit risk; techniques of loan interviews and the development of credit information; investigation and the credit decision; collection procedures; business development.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance or Money and Banking (5/74).

Corporate Trust Administration

Length: 30 hours (15 weeks).

Dates: September 1963 – Present.

Objective: To provide the student with practical and conceptual knowledge of the functions, responsibilities, and operations of current corporate trust banking activities.

Instruction: Review of corporate financial principles and practice; use of capital financing instruments; establishment of corporate trusts and issuance of bonds; administration of corporate trusts, before and after default; corporate agency appointments, other than transfer agent and registrar; bond operation practices and procedures.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance or Money and Banking (5/74).

Corporation Accounting Principles

Length: 30 hours (15 weeks).

Dates: September 1963 – Present.

Objective: To provide students with an understanding of corporation accounting principles in preparation for required courses in specialized areas of study.

Instruction: Fundamentals of accounting theory and practice of the corporation, especially industrial and commercial. Problems of opening, adjusting, and closing corporate books; capital stock; corporate earnings; investments; bonds; notes; appropriation of retained earnings. Consideration of other stockholders' equity accounts and transactions, of organization for control, and interpretation from the management viewpoint.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Accounting or Finance (5/74).

Corporation Finance

Length: 30 hours (15 weeks).

Dates: September 1963 – Present.

Objective: To develop a comprehensive understanding of the ways in which business corporations finance their incorporation and continuing daily operations.

Instruction: The nature, functions, and management of the corporation; sources of financing; efficient utilization of funds by corporations; management of assets and liabilities; cost of capital; capital structure, present value, and capital budgeting; consideration of external economic forces that influence the corporation finance process. Emphasis on qualitative and quantitative tests as applied to corporate financial performance.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance (5/74).

Credit Administration

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with an understanding of the fundamentals of credit and loan administration.

Instruction: Study of the credit and loan function in the context of overall banking operations. Lending types and techniques; methods of credit investigation; sources of credit information; credit techniques; credit correspondence; types of bank loans.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Banking or Finance (5/74).

Economic Principles

Length: 60 hours (30 weeks).

Dates: September 1963—Present.

Objective: To provide the student with a framework of knowledge of the economic principles upon which more discrete banking systems and practices are later examined.

Instruction: A 2-semester survey of the major principles, institutions, and problems of our economic system today. The first semester covers macroeconomics, and the second semester covers microeconomics. Particular emphasis given to the development of economic institutions, national income analysis, comparative economics, economics of the marketplace, and present-day economic problems as forces in understanding the economic system; additional focus on the operation of the international economy.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Economics (5/74).

Employee Benefit Trust Administration

Length: 30 hours (15 weeks).

Dates: September 1973—Present.

Objective: To provide the student with knowledge of the procedures and regulations relating to the various employee benefit trusts.

Instruction: Detailed coverage of the various aspects of employee benefit trusts. The establishment of pensions; profit sharing; thrift and savings plans; stock bonus trusts; trusts for self-employed (HR-10); procedures for establishing and regulating such trusts; trends in employee benefit plans; the duties and powers of trustees; role of the actuary; employee benefit trust investment.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance or Money and Banking (5/75).

English

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To enable the student to develop skill in comprehension and use of grammatical concepts and in the development of themes that clearly and accurately express his or her intention.

Instruction: Initial diagnostic testing of students identifies specific problem areas (usually grammar, usage, spelling, vocabulary, punctuation) and determines the amount of attention to be devoted to each topic. Techniques of organizing paragraphs and themes and of effective presentation are developed. Writing samples indicate degree of progress throughout the course.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in English (Communications Skills) (5/74).

Estate and Trust Administration

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with knowledge of the basic elements of estate administration and the fundamental concepts of personal trusts and their administration.

Instruction: Intestacies, wills, and probates of wills; marshaling of assets; payments of debts; claims and legacies; distribution of assets; accountability of executors and administrators; creation of trusts; duties, powers, and limitations of fiduciaries; powers

of appointment; termination of trusts; common trust funds.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance or Money and Banking (5/74).

Financial Statement Analysis

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To develop in the student fundamental knowledge of corporate credit analysis according to the standards and practices of New York City banks.

Instruction: The principles and policies involved in the appraisal of credit risks by analysis of accounting statements of financial condition. Concepts, characteristics, and tools of financial statements; financial statement analysis (ratio analysis, liquidity analysis, and earnings analysis); balance sheets and operating statements; tests used in appraising the financial statements of various industries as a basis for credit.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking or Finance (5/74).

Foreign Exchange Operations

Refer to Foreign Exchange Theory and Practice.

Foreign Exchange Theory and Practice

(Formerly Foreign Exchange Operations)

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To familiarize the student with the workings of the world's various foreign exchange systems and the fundamental workings of the foreign exchange market as related to the daily operations of a money center bank's foreign exchange department.

Instruction: Organization of the foreign exchange market (hedging, interest arbitrage, and the method of dealing with the exchange problems confronting the bank's client); functions and organization of foreign exchange accounting.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

Human Factors in Banking

Refer to Human Relations in Bank Work.

Human Relations in Bank Work

(Formerly Human Factors in Banking)

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with an understanding of the various organizational factors and procedures that determine career growth and progress in banking.

Instruction: Growth and history of the human relations concept; the supervisor's job; leadership and its effects on employees; motivation and job advancement; training new employees; self-development and development of others; problem solving.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Applied Behavioral Science (5/74).

International Banking Operations

(Formerly International Department Operations)

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with a fundamental survey course as an introduction to the area of International Banking.

Instruction: Basic survey dealing with the evolution of international banking in the United States, the instruments and documents used in foreign trade, and the various functions of an international banking department.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

International Collections and Money Transfer

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with basic knowledge of NOSTRO and VOSTRO accounts as used in International Banking operations.

Instruction: Detailed coverage of the NOSTRO and VOSTRO bookkeeping functions; the funds transfer systems for both domestic and international

money transfers; methods of handling documentary collections (inward and outward) and means of financing these collections.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

International Department Operations

Refer to International Banking Operations.

Investment Principles

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To develop in the student objective and systematic knowledge of the forces, factors, and technical requirements utilized in formulating sound investment decisions.

Instruction: Selection of particular types of investments on the basis of needs, purposes, and financial status of each class of investor; mechanics of investment for each investor class; study of recognized quantitative and qualitative tests used in judging security values; legal and financial characteristics of various types of investment securities; daily economic and social forces that necessitate a continuing flexible approach in making investment decisions.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Finance (5/74).

Law of Commercial Instruments

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with basic knowledge of the codified law in Articles 3 and 4, Uniform Commercial Code, with reference to the processing and collection responsibilities of financial institutions with commercial instruments.

Instruction: The rights and duties of parties to money instruments (checks, drafts, notes, and certificates of deposit) under Article 3 of the Uniform Commercial Code; the problems of financial institutions in the handling of commercial instruments in the collection process under Article 4 of the Uniform Commercial Code.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Law or Money and Banking (5/74).

Law of Contracts

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with basic knowledge of the concepts and fundamentals of contractual relationships that are necessary to function effectively in a business environment.

Instruction: Introduction to the court system; development of legal systems and sources of law; function of contract law; elements essential to the creation, performance, and discharge of contracts.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Law (5/74).

Life Insurance

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with a basic understanding of life insurance.

Instruction: Life insurance principles, structure, and practice as required of company agents and representatives by the New York State Insurance Department. Selection of risks; values and benefits; various types of policies; terms of the life insurance contract; sales features; life insurance as an investment; planned settlement of the life insurance estate.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration, Economics, Finance, or Life Insurance Principles (5/74).

Management Training

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with an understanding of the role and responsibilities of the manager of the work forces in financial institutions.

Instruction: Managerial organization, planning, and controlling, especially for first-level and middle-manager positions; job management; improvement of management methods; developing and main-

taining the work team. Problem solving via case study is emphasized.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Management (5/74).

Marketing

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with an understanding of new bank marketing strategies, as well as how each employee is a key factor in influencing various banking market approaches.

Instruction: Marketing concepts and marketing management responsibilities; market analysis; promotions; media; sales principles; marketing success in relation to internal banking functions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Marketing (5/74).

Money and Banking

Length: 60 hours (30 weeks).

Dates: September 1963—Present.

Objective: To provide the student with in-depth and realistic knowledge of the money and banking mechanism and of the general function performed by the banking mechanism within the total economic system.

Instruction: Two semesters devoted to the nature and functions of money and the development of monetary standards, of the commercial banking structure and its unique money-creating function, of interest rate determinations, and of a commercial bank's earning assets. The Federal Reserve System in its monetary policy role; monetary policy vis-a-vis fiscal policy; international monetary functions and problems. Emphasis is placed on relating the course content to present-day monetary problems (inflation, devaluation, and international money flows).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Finance or Money and Banking (5/74).

Real Estate and Mortgage Principles

Length: 60 hours (30 weeks).

Dates: September 1963—Present.

Objective: To provide the student with an understanding of the home mortgage investment area, which is of concern to both thrift institutions and commercial banks.

Instruction: An intensive 2-semester survey course designed to familiarize the student with the legal and financial fundamentals of real estate investing and mortgage financing. Real estate ownership; transactions; title searches and closing; appraising; brokerage and investment.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

Savings Bank Accounting

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with a practical understanding of the internal accounting treatment of all transactions within a savings bank.

Instruction: The accounting treatment of transactions as they normally occur in the daily operations of a savings bank; accruals; reserves; accounting and statistical records; Banking Department and other reports; relationship and responsibilities of the accounting departments and management. Practical problems are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Accounting or Finance (5/74).

Savings Bank Life Insurance

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with a practical understanding of life insurance sales, with specific reference to Savings Bank Life Insurance (SBLI) sales and service.

Instruction: Practical approach to Savings Bank Life Insurance and its relation to savings banking. Product knowledge of SBLI; familiarity with plans offered; underwriting rules; limitations; rate book premium calculation; preparation of SBLI proposals; completion of applications.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester

hours in Finance or Savings Bank Life Insurance (5/74).

Savings Bank Operations

Length: 30 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide the student with an understanding of the internal operations of a savings bank and the external regulations surrounding the savings function in New York State savings banking at the present time.

Instruction: The departmental operations of the savings bank within the law, rules, and regulations of the New York Banking Department and the Federal Deposit Insurance Corporation. Tellers paying and receiving money; payment problems; recording of transactions and proving procedures; payment of interest; liquidity; bank operating expenses; accounting of all financial transactions through to the General Ledger; preparation of the Statement of Condition and the Profit and Loss statement; the auditing function throughout the bank; the effect of the investment policy; objectives of bank management.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

Savings Banking Organization

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with detailed knowledge of the operations, structure, and role of thrift institutions in the United States economy.

Instruction: Basic overview of mutual savings banking; history and tradition of savings banking; types, structures, markets, and problems of savings banks; rules and regulations under which savings banks operate.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Banking, Business Administration, Economics, or Finance (5/74).

Trust Department Services

Length: 30 hours (15 weeks).

Dates: September 1963—Present.

Objective: To provide the student with basic and fundamental knowledge of the principles and policies underlying the various fiduciary services offered by financial institutions.

Instruction: Survey of all important services and functions of a trust department in a financial institution. Property and property rights; wills; settlement of estates; responsibilities of executors and administrators; personal agencies; corporate agencies; employee trusts; pension trusts; community and institutional trusts and agencies.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Money and Banking (5/74).

Additional information on these courses may be obtained from:

Office on Noncollegiate Sponsored Instruction
New York State Education Department

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

The American Telephone and Telegraph Company (AT&T), with headquarters in New York City, is the parent corporation of the nationwide Bell System, which consists of AT&T Long Lines, Western Electric, Bell Telephone Laboratories, and 23 Associated Operating Companies. Each operating company handles communications services within a particular geographic region.

AT&T conducts a wide range of courses to meet the needs of both management and nonmanagement employees. The courses range from highly technical offerings in specific disciplines such as accounting, computer science, and engineering to more general programs in areas such as supervisory training, managerial skills development, and job enrichment. Courses are offered on company time and are taught both on premises and at Bell System training centers throughout the country.

Source of official student records: Manager, Training and Development, 100 New England Avenue, Piscataway, New Jersey 08854.

Forkner Shorthand Program

Location: AT&T Training Center, 100 New England Avenue, Piscataway, NJ.

Length: 128 hours (12-16 weeks); individualized program.

Dates: February 1972—Present.

Objective: To provide the student with an understanding of the principles of Forkner Shorthand in order to develop skill in taking dictation of business letters and transcribing them.

Instruction: Principles of Forkner Shorthand (the mastery of writing sounds, short forms and phrases, and basic business vocabulary); language skills development (grammar, spelling, and typographical usage). Practice in business letter dictation and development of transcription techniques. Dictation at varying speeds with a minimum attainment level of 80 wpm for 2 minutes with a maximum of 7 errors. Cassette tapes are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Business Education, or Secretarial Science (6/75).

MARKETING FOR AT&T SALES AND MARKETING OFFICIALS

The program entitled Marketing for AT&T Sales and Marketing Officials was conducted by the Bell System Data Communications Training Program in Cooperstown, New York, from October 1961 until June 1970. The content of the program was formulated by a task force composed of personnel from AT&T, the Operating Companies, Bell Telephone Laboratories, and the Western Electric Company. The teaching staff were employees of AT&T with considerable experience in the Bell System and thoroughly conversant in the subject matter. Only three sections of the program were presented for evaluation. The first two sections were considered as one unit for evaluation purposes.

Source of official student records: Director of Administration, Human Resources Development Department, American Telephone and Telegraph Company, 195 Broadway, New York, New York 10007.

Computer Principles

Refer to Data Switching Concepts.

1. **Data Switching Concepts**
2. **Computer Principles**

Location: Bell System Data Communication Training Center, Cooperstown, NY.

Length: 75 hours (6 weeks); residential.

Dates: October 1961—June 1970.

Objective: To provide the student with thorough background in modern data communication so he/she can recognize and satisfy the complex communication needs of customers and can provide them with effective and appropriate facilities in the data communications field.

Instruction: Boolean algebra; logic theory; computer hardware; computer storage; information retrieval; computer languages (symbolic, BASIC, FORTRAN, and COBOL). Students work on involved data cases and design solutions to specific customer problems. Course format consists of lectures, case studies, and laboratory experiences.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Introduction to Computers (6/74). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Marketing and Sales Principles

Location: Bell System Data Communication Training Center, Cooperstown NY.

Length: 77 hours (6 weeks); residential.

Dates: October 1961—June 1970.

Objective: To provide the student with thorough background in modern data communication so he/she can recognize and satisfy the complex communication needs of customers and can provide them with effective and appropriate facilities in the data communication field.

Instruction: Comprehensive foundation of the basic principles of professional salesmanship; the steps in the personal selling process (identifying potential customer segments, planning the initial sales contact, closing the sales call, and servicing customers); development of behavioral science and communication skills (psychology of interpersonal interaction and the art of listening) through role playing, audio-visual techniques, and problem-solving case histories. The teaching approach effectively integrates classroom lectures and student participation through a large number of classroom and homework exercises.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Principles of Salesmanship (6/74).

Secretarial Seminar

Location: AT&T Training Center, 100 New England Avenue, Piscataway, NJ.

Length: 35 hours (1 week).

Dates: January 1970—Present.

Objective: To provide management-level secretaries with simulated office experiences to enable them to organize, administer, and supervise their offices.

Instruction: Development of the conceptual and reasoning abilities as well as the human relations skills needed in a management position. Judgment and decision making; techniques for improving job perform. .e; use of knowledge of company organization and departmental functions in making decisions; representing the boss; job planning and organizing; using initiative; effective letterwriting; the boss-secretary team. Case studies, role playing, and in-basket exercises used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Education or Secretarial Science (6/75).

SPECIAL PROGRAM IN ENGINEERING ECONOMY FOR PUBLIC UTILITIES

The Special Program in Engineering Economy for Public Utilities is offered by Stanford University each summer to employees of AT&T and other regulated public utilities companies. The highly qualified instructors in the Program are drawn from Stanford, other universities, and industry. Classroom time is divided between lectures, discussions of cases and problems, and work sessions devoted to the solutions of real problems. In addition to the regular classes, lectures which deal with topics of special interest are given. One series of lectures focuses on the use of the computer for solving engineering economy problems. Major textbooks and reading assignments are sent to participants prior to beginning the program. Although the Program consists of four separate courses, the credit recommendation applies only to those students who have completed all of them.

Source of official student records: Director of Administration, Human Resources Development Department, American Telephone and Telegraph Company, 195 Broadway, New York, New York 10007.

1. **Accounting Problems and Practices in Public Utilities**
2. **Engineering Economy Applications to Public Utilities**
3. **Finance**
4. **Managerial Economics, Rate Structure, and Pricing in Public Utilities**

Location: Department of Industrial Engineering, Stanford University, Palo Alto, CA.

Length: Version 1: 120 hours (4 weeks); residential.
Version 2: 114 hours (3 weeks); residential.

Dates: Version 1: July 1962—December 1972.
Version 2: January 1973—Present.

Objective: To provide participants with knowledge and skills highly relevant to current regulated utilities problems and to update their backgrounds in engineering economy for public utilities; to broaden the background of middle management officers for future advancement within the various participating companies.

Instruction: Course 1: Relationship between accounting and utility regulations. Allocation of costs among different types of services; mortality studies of physical properties and their relationship to depreciation accounting; the determination of the income tax component of utility revenue requirements. The course includes problems and assigned readings selected to stimulate the participant's ability to make effective use of accounting data both in the evaluation and control of operations and in analysis and decision making concerned with investment. **Course 2:** Provides skills for undertaking detailed analyses of the economic consequences of competing alternative courses of action requiring capital investment. Sunk cost; cash flow; time value of money; risk and sensitivity analysis; income tax effects: minimum revenue requirements; replacement problems. Participants bring examples of engineering economy problems from their companies and the data necessary to present a case study in the program. **Course 3:** General principles of financial management, with special applications and policy questions relating to regulated public utilities. Financial functions and controls; forecasting; uncertainty tools in the capital budgeting area; financial structure and the use of leverage; dividend policy and internal financing. Special emphasis is given to the cost of capital, moving into money and capital markets toward the end of the program. **Course 4:** Selected topics in managerial economics. Demand; price determination; competition; market structure. These topics provide the background necessary to understand and treat the special problems faced by a regulated public utility (marginal cost pricing vs. average cost pricing, rate structures, capital plant expansion, and the economic implications of government regulations).

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Managerial Economics and 3 semester hours in Managerial Finance (6/74). NOTE:Courses 1, 2, 3, and 4 must all be completed in order to receive credit.

Engineering Economy Applications to Public Utilities

Refer to Accounting Problems and Practices in Public Utilities.

Finance

Refer to Accounting Problems and Practices in Public Utilities.

Managerial Economics, Rate Structure, and Pricing in Public Utilities

Refer to Accounting Problems and Practices in Public Utilities.

Training and Orientation Program for Secretaries

Location: AT&T Training Center, 100 New England Avenue, Piscataway, NJ.

Length: 35 hours (1 week).

Dates: January 1970—Present.

Objective: To provide entry-level secretaries with simulated office experiences to enable them to perform the basic secretarial role.

Instruction: Work organization; job planning;

mail logs; letter writing; files management; conference and travel planning; telephone technique; handling office visitors; grammar; spelling; business mathematics; business organization. Lecturettes, role playing, subgroup exercises, video-taping/critique sessions, and in-basket exercises used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Education or Secretarial Science (6/75).

TRAINING RESEARCH GROUP

Source of official student records: Training Research Group—Key Instructor, American Telephone and Telegraph Company, 130 John Street, Room 1733-A, New York, New York 10038.

Performance Analysis Workshop

Location: Various training facilities throughout the Bell System.

Length: 25 hours (3 days); residential.

Dates: August 1973—Present.

Objective: To provide management personnel with the knowledge and skills necessary to apply problem-analysis strategies to human performance problems and to recommend and implement cost-effective solutions.

Instruction: System for analyzing human performance problems. Identifying or isolating performance problems; determining the value of correcting the problems; determining the causes of the problems, including lack of knowledge and factors in the work environment; selecting strategies for solving the problems. Individual work combined with case studies and group discussions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Problem Analysis (11/74).

Typing Skills Training

Location: AT&T Training Center, 100 New England Avenue, Piscataway, NJ.

Length: 128 hours (12-16 weeks); individualized program.

Dates: January 1971—Present.

Objective: To provide the student with the basic skills in typewriting and to develop production standards for letters, tabulations, and business forms.

Instruction: Mastery of the keyboard with a minimum attainment level of 40-50 gross wpm with a 2.5 percent error limitation; business letters; tabulation; making corrections; use of punctuation and capitalization; memoranda; outlines; manuscripts; business forms; rough drafts. Audio-visuals, cassette tapes, and texts utilized.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Business Education, or Secretarial Science (6/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

BOY SCOUTS OF AMERICA

The Boys Scouts of America conducts scouting programs to promote individual character development, citizenship, and mental and physical fitness. Since its incorporation in 1910, over 60 million youths have been members.

Professional Development Program is designed to provide leadership training for scouting professionals. This program is composed of educational offerings which include conferences, seminars, workshops, correspondence courses, work-study, and classroom instruction conducted at the Schiff Scouting Reservation in Mendham, New Jersey (the national education center of the Boy Scouts of America) and at regional centers.

Source of official student records: Director of Professional Training, Schiff Scout Reservation, Mendham, New Jersey 07945.

Educational Field Laboratory (Skill Development for Working with Low-Income People)

Location: Mendham, NJ; regional locations.

Length: **Version 1:** 210 hours (23 days); residential.
Version 2: 130 hours (15 days); residential, with additional course work.

Dates: **Version 1:** July 1973—July 1974.
Version 2: July 1974—Present.

Objective: To relate the aims and concepts of the Boy Scouts of America (BSA) and other youth-serving agencies to community needs for the purpose of positive social action; to analyze the needs of a low-income community and to determine what resources are available to serve it.

Instruction: Versions 1 and 2: The course takes a systems approach to program development, problem-solving techniques, and directed field analysis of community problems. Topics include force field analysis, intergroup communication, value systems, indigenous community characteristics, the governmental process, life styles, research methods, and action planning. The specific emphasis of each course varies according to the ethnic or racial makeup of the area in which the course is given; for example, the course given in New York City focuses on the black and Puerto Rican communities. Field visits, lectures, discussion, problem solving, case histories, and simulation are used. **Version 2:** Unit management and historical concepts and procedures of BSA are precourse work, covered through readings and programmed materials. They are part of residence instruction in **Version 1.**

Credit recommendation: Versions 1 and 2: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Recreation, Social Work, Sociology, or Urban Education and Community Affairs (7/75).

Fund Raising and Finance Management (S-6)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 30 hours (5 days); residential, 6-8 hours precourse work.

Dates: January 1975—Present.

Objective: To provide managers with techniques for securing and managing financial resources.

Instruction: Procedures and techniques in fund raising as well as effective financial management. Topics include sustaining membership enrollment, benefits, sporting events, gifts, capital campaign, foundation requests, trust funds, United Way, and local government funding. Lectures, group discussion, role playing, conference, assigned readings, and oral and written reports are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Administration, Education, Management, or Recreation (6/75).

1. Fundamentals of Management (M-1)
2. Management in Action (M-2)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 1. 35 hours (5 days), residential.
2. 35 hours (5 days); residential.

Dates: January 1974—Present.

Objective: To provide an understanding of management principles and to develop the skills of Management by Objectives (MBO).

Instruction: In both courses topics include definition, the manager and his work, advantages and disadvantages of MBO, force field analysis, and personnel practices. Management in Action (M-2) is a problem-solving workshop based on principles and techniques developed in Fundamentals of Management (M-1). It also includes materials in performance analysis and managerial grids. Lectures, guest lectures, group discussions, audio-visuals, case studies, role plays, simulations, and assigned readings are used. (Prerequisites: National Executive Institute I, II, III.)

Credit recommendation: Course 1: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Administration or General Management (6/75). **Courses 1 and 2:** In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Administration or General Management (6/75).

Human Relations Conference (S-14) (Human Relations Workshop)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 35 hours (5 days); residential, 6-8 hours of precourse work.

Dates: January 1974—Present.

Objective: To enable participants to work more adeptly with others by utilizing recognized techniques of group dynamics.

Instruction: Self analysis; communications; counseling; feedback; decision making; power structure; relationships between professionals and volunteers. Lectures, discussion, simulations, oral and written reports, and assigned readings are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Behavioral Science, Education, Human Relations, Recreation, or Urban Education and Community Affairs (6/75).

Management in Action (M-2)

Refer to Fundamentals of Management (M-1).

National Camping School—Aquatics (S 3-3) (Managing Camp Aquatics Programs)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: January 1974—Present.

Objective: To develop leadership skills in conducting aquatic programs and to learn how to provide a safe aquatic environment by utilizing the resources of a trained staff and camp facilities.

Instruction: Instructional swimming; recreational swimming; rowing; canoeing. Lectures and visuals are used, as well as demonstration and practice in swimming and boating and in maintenance of equipment and facilities.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Camping and Outdoor Education or Physical Education (7/75).

National Camping School—Camp Management (S 3-1)

Refer to National Camping School—Camp Program (S 3-2).

1. National Camping School—Camp Program (S 3-2) (Program Management in Camps)
2. National Camping School—Camp Management (S 3-1)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; and Sunnyvale, CA.

Length: 1. 45 hours (1 week); residential, 6-8 hours precourse work.
2. 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: 1. January 1974—Present.
2. January 1974—Present.

Objective: Course 1: To define and understand the role of the program director in camps; to enable participants to organize, supervise, and conduct youth activity programs. **Course 2:** To develop the skills and techniques necessary for managing and directing residential camping services.

Instruction: Course 1: Sports programs; aquatics; safety; outpost camping; hiking; camp craft skills; special programs; special events; evaluation techniques. Demonstrations, discussion, individual and group projects are used. **Course 2:** Business management and budgeting; program development and direction; managing a health and safety program; commissary management; staff management. Lecture, discussion, workshops, demonstrations, and individual projects are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Camping and Outdoor Education or Recreation (7/75). NOTE: If Course 1 or Course 2 is taken separately, 2 semester hours are recommended.

National Camping School—Chaplains (S 3-6)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: January 1974—Present.

Objective: To enable candidates or representatives of religious communities to provide spiritual help and guidance to young people in a camp setting.

Instruction: The course covers techniques of interpersonal relationships, guidance, and counseling needed by chaplains in assisting youth growth and development. Demonstrations, discussions, simulations, role playing, and recommended readings are used.

Credit recommendation: In the graduate degree category, 2 semester hours in Education, Human Relations, or Religion (7/75).

National Camping School—Ecology Conservation (S 3-5) (Camp Leadership in Ecology—Conservation)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 45 hours (1 week); residential, 6-8 hours precourse work.

Dates: January 1974—Present.

Objective: To prepare the student to develop camp programs and activities in ecology and conservation which will foster among young people an understanding of their interdependence with the environment.

Instruction: Weather; soil and water; forestry; camp conservation; fisheries; wildlife; geology. Lecture, discussion, demonstration, workshop and laboratory exercises, independent project development, and group projects are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Biology, Conservation, Geography, Recreation, or Science (7/75).

NATIONAL EXECUTIVE INSTITUTE

The National Executive Institute (NEI) is a required 3-year program for all new Scout professionals. It combines on-the-job training oriented to individual needs with a 3-phase residence program.

The course work for NEI I is taken after 2 to 4 months of on-the-job orientation. The remainder of NEI I is a 1-year on-the-job training period. Using an "Action Plan" developed during NEI I, the staff leader and the new professional develop a series of projects and self-study. At the end of this 1-year program, and prior to NEI II, a "Development Needs Analysis" is submitted to NEI.

NEI II is a 1-week course conducted regionally, followed by another 1-year on-the-job training period. At the conclusion of this year, the participant attends NEI III, a 1-week course also regionally conducted.

In all three parts, methodologies include lectures, guest lectures, small group discussions, simulations, role playing, field trips, audio-visuals, individual evaluation conferences, assigned readings, oral and written reports, and use of American Management Association materials.

The credit recommendations reported below were established for the residential course work plus the intervening training period.

National Executive Institute I

Location: Schiff Scout Reservation, Mendham, N J.

Length: 152 hours (24 days); residential. **Part 1:** 47 hours; **Part 2:** 55 hours; **Part 3:** 52 hours.

Dates: January 1974—Present.

Objective: To provide new Scout executives with an understanding of management and human relations skills and of organizational designs as they relate to Boy Scouts of America's purposes and programs.

Instruction: Part 1: Community agency leadership. Development of individualized skills to enhance articulation with community agencies; self and job analyses as they relate to performance objectives; establishment of short- and long-range professional goals; techniques of individual time management and work scheduling; tools of communications. **Part 2: Program and personnel development.** All levels of Scout programming; camping activities; analysis of charters and by-laws; financial requirements; volunteer-professional relationships; the recruiting, development, and deployment of volunteers. **Part 3: Organizational patterns; managerial services of the Boy Scouts of America.** Council and district concepts; district organization and structure; unit service functions; relationship to national organization; training of trainers; goal management; publication and charter renewal; resource availability.

Credit recommendation: Part 1: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Guidance, Recreation, Social Work, Sociology, or Urban Education and Community Affairs (6/75) **Part 2:** In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Human Relations, Personnel Management, Recreation, or Urban Education and Community Affairs (6/75). **Part 3:** In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Education, Sociology, or Urban Education and Community Affairs (6/75).

1. National Executive Institute II·
2. National Executive Institute III
(Problem Solving: A Systems Approach)

Location: Mendham, NJ; Atlanta, GA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 1. 36 hours (5 days); residential.
2. 36 hours (5 days); residential.

Dates: January 1974—Present.

Objective: To provide management and human relations training directed toward solving operational problems.

Instruction: Courses 1 and 2: Communication skills and techniques, salesmanship, goal management; volunteer involvement; systems approach and case studies in problem solving; time management; program enrichment; self evaluation; finance; membership and outgrowth. Course 1 is followed by a 1-year on-the-job training period. The staff leader and the professional define the best content to meet needs and interest of the participant. At the conclusion of this 1-year program another in-depth interview is conducted by the staff leader to determine future professional interest and potential.

Credit recommendation: In the graduate degree category, 3 semester hours in Education, Human Relations, Personnel Management, Recreation, Sociology, or Urban Education and Community Affairs (6/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

National Executive Institute III

Refer to National Executive Institute II.

Staff Leadership (M-5)

Location: Mendham, NJ; Atlanta, CA; Oak Brook, IL; Kansas City, MO; Dallas, TX; Sunnyvale, CA.

Length: 35 hours (5 days); residential.

Dates: January 1974—Present.

Objective: To provide an understanding of management principles and to develop the skills of Management by Objectives (MBO).

Instruction: Definition of management tasks; the manager and his work; advantages and disadvantages of MBO; force field analysis; personnel practices; job analysis; job description and standards of performance. Lectures, guest lectures, group discussions, audio-visuals, case studies, role plays, simulations, and assigned readings are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Administration or General Management (6/75).

Woodbadge (S-4)
(Camping Leadership Workshop)

Location: Selected local council sites.

Length: 60 hours (7 days); residential, 32 hours of precourse work.

Dates: January 1974—Present.

Objective: To promote the development of outdoor skills and effective leadership for professional staff and selected volunteers.

Instruction: A practical experience in outdoor skills (e.g. campfires, conservation, outdoor cooking, site preparation, hiking, and safety) together with the application of behavioral concepts to personal and group practices. The course includes practice in giving and receiving feedback; trust building; skills in personal, group and intergroup dynamics, and counseling. At the conclusion of practical experience the student develops a "contract" or personal action plan for a period of up to 2 years. In addition, at least 6 months following the conclusion of the on-site experience, a written report is required. Lectures, discussion, audio-visuals, individual and group presentations, and assigned readings are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Camping, Environmental Education, Outdoor Education, Physical Education, or Recreation (6/75).

Additional information on these courses may be obtained from:
Project on Noncollegiate Sponsored Instruction
American Council on Education

CHAUTAUQUA INSTITUTION

Chautauqua Institution, founded in 1874, is located on 700 acres near the head of Chautauqua Lake in southwestern New York State. It is a residential community, a summer resort colony, and an educational institution.

The Chautauqua Summer School was established soon after the founding and is believed to be the oldest summer school in the United States. Chautauqua's educational aim is to provide creative opportunities for all ages for many varied interests. Emphasis is on three areas: professional studies for teachers, advanced music training, and special interest courses. The latter include art, dance, and theatre, as well as crafts and topical offerings. Classroom and workshop opportunities are available to everyone regardless of age.

Course offerings of the Summer School are augmented by many artistic, intellectual, and religious discussions and programs. These are easily accessible to all and occur daily throughout the eight-week season. Included are frequent resident symphony orchestra concerts and concerts by renowned international artists, a recital series, an art gallery and annual art festival, opera company and repertory theatre productions, a film theatre, and daily lectures, discussions, and sermons on a wide variety of topics.

Source of official student records: Registrar, Summer School Office, Box 28, Chautauqua Institution, Chautauqua, New York 14722.

ART CENTER

The Art Center serves students of all ages who are interested in exploring various art forms. Both serious artists and novices are individually supervised by experienced artist/teachers. Instruction is offered in painting and drawing, pottery, ceramics, jewelry making, sculpture, weaving, art criticism, and art appreciation. Throughout the season, the students and faculty participate in various art exhibitions.

Ceramic Sculpture (A 103)

Location: Chautauqua Institution, Chautauqua, NY.

Length: 120 hours (7 weeks).

Dates: June 1974—Present.

Objective: To provide the student with knowledge of and basic techniques in working with the human figure employing ceramic materials and processes.

Instruction: Combination of the techniques of modeling the human figure with those of ceramics. Compositions are executed by various means in clay, fired in the kiln, and sometimes glazed. Instruction includes the making of piece-molds, pouring, and pressing.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Ceramic Sculpture (8/75). NOTE: Credit should be awarded before the end of the second year following completion of a course. Credit may be awarded twice to students who complete the course more than one time.

Ceramics and Metal Shop (A 104)

Part 1: Ceramics
Part 2: Metal Shop

Location: Chautauqua Institution, Chautauqua, NY.

Length: 120 hours (4-8 weeks).

Dates: June 1974—Present.

Objective: Part 1: To familiarize the student with the possibilities in working with clay. **Part 2:** To familiarize the student with the possibilities in working with silver, copper, and brass.

Instruction: Part 1: Throwing on the Potter's Wheel; hand-building (coil, slab, press-mold); decorating with slip and/or underglaze colors; stains

and oxides; glaze technology and application. **Part 2:** Techniques of working with silver and other metals: sawing plate; working with wire; soldering setting of stones (bezel and prong); modeling in wax preparatory to centrifugal casting; other methods of casting; finishing a piece of jewelry. Enamel techniques on copper and fine silver: dusting; wet layering; cloisonne; basse taille; plique a jour, etc.

Credit recommendation: Part 1: In the lower division baccalaureate/associate degree category, 3 semester hours in Ceramics (8/75). **Part 2:** In the lower division baccalaureate/associate degree category, 3 semester hours in Metal and Jewelry (8/75). NOTE: Credit should be awarded before the end of the second year following completion of a course.

Painting and Drawing (A 101)

Part 1: Painting
Part 2: Drawing

Location: Chautauqua Institution, Chautauqua, NY.

Length: 120 hours (4-8 weeks).

Dates: June 1974—Present.

Objective: Part 1: To enable the student to express his/her ideas on canvas by means of various painting media. **Part 2:** To enable the student to express his/her ideas through the medium of drawing.

Instruction: Students concentrate on either drawing or painting for the course. **Part 1:** Student-selected focus in portraiture, figure, landscape, still life, or abstract areas utilizing acrylics, oils, and watercolor. **Part 2:** Student-selected focus in portraiture, figure drawing, landscape, still life, or non-objective utilizing drawing materials.

Credit recommendation: Part 1: In the lower division baccalaureate/associate degree category, 3 semester hours in Painting (8/75). **Part 2:** In the lower division baccalaureate/associate degree category, 3 semester hours in Drawing (8/75). NOTE: Credit should be awarded before the end of the second year following completion of a course. Credit may be awarded twice to students who complete the course more than one time.

Sculpture (A 103)

Location: Chautauqua Institution, Chautauqua, NY.

Length: 120 hours (7 weeks).

Dates: June 1974—Present.

Objective: To provide the student with experience in modeling the human form, both portraiture and full figure.

Instruction: Studio-oriented approach to the subject of sculpture and a strong foundation in the mechanics and techniques of making portrait-busts and figure pieces.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Sculpture (8/75). NOTE: Credit should be awarded before the end of the second year following completion of a course. Credit may be awarded twice to students who complete the course more than one time.

Weaving (A 105)

Location: Chautauqua Institution, Chautauqua, NY.

Length: 120 hours (8 weeks).

Dates: June 1974—Present.

Objective: To provide instruction in weaving at three levels.

Instruction: Students are classified as beginning, intermediate, or advanced depending on their experience, knowledge, and ability. **Beginning:** Warping, beaming, and threading; design; use of colors; combinations of yarns; weaving equipment and techniques. Students weave on prepared looms. **Intermediate:** Using basic techniques and weaves, students work independently to design and create more detailed and difficult patterns. They also design and execute larger pieces and projects. (Prerequisite: one year of class or self-taught weaving.) **Advanced:** Individualized instruction at the advanced level involving the techniques of double weaves, multiple harness lace weaves, summer and winter, and crackle weaves. (Prerequisite: weaving experience, ability to dress the loom, understanding of drafts and techniques, tie-ups, some designing, and knowledge of yarns.)

Credit recommendation: Beginning or Intermediate: In the lower division baccalaureate/associate degree category, 3 semester hours in Weaving (8/75). **Advanced:** In the upper division baccalaureate category, 3 semester hours in Weaving (8/75). NOTE: Credit may be awarded to a student for all three levels of instruction. Credit should be awarded before the end of the second year following completion of a course.

DANCE DEPARTMENT

The Chautauqua Dance Department offers an eight-week summer curriculum for beginning through advanced-professional level students. Students participate in graded courses which include classical ballet, modern dance, ethnic (character and Spanish) and jazz (contemporary theatre and television) and which are augmented by two-week workshops in mime, improvisation, tap dance, and Japanese dance. Students are placed by audition in appropriate classes depending on ability, training, and strength. They may elect to substitute a major (one hour per day) for the workshops or may elect to take both the major and the workshops. Throughout the summer, students have the opportunity to observe and learn from professio al guest dance artists and companies in rehearsal and performance.

1. Ballet I (Elementary)
2. Ballet II (Intermediate)
3. Ballet III (Intermediate-Advanced)
4. Ballet IV (Advanced)

Location: Chautauqua Institution, Chautauqua, NY.

Length: 1. 40 hours (8 weeks).
2. 60 hours (8 weeks).
3. 60 hours (8 weeks).
4. 60 hours (8 weeks).

Dates: June 1974—Present.

Objective: To instruct students in the technique and art of classical ballet at four levels.

Instruction: Classical ballet techniques. Barre; port de bras; adagio; pirouettes; allegro. Pointe work is offered to the professional-advanced and intermediate students when they have achieved technical readiness.

Credit recommendation: Course 1: In the lower division baccalaureate/associate degree category, 1 semester hour in Ballet (8/75). **Course 2:** In the lower division baccalaureate/associate degree category, 2 semester hours in Ballet (8/75). **Course 3 or 4:** In the upper division baccalaureate category, 2 semester hours in Ballet (8/75). **All Courses:** An additional 1 semester hour at the same level is recommended for students completing a major in ballet (8/75). NOTE: Credit should be awarded before the end of the second year following completion of a course.

1. Modern Dance I (Elementary)
2. Modern Dance II (Intermediate)
3. Modern Dance III (Intermediate-Advanced)
4. Modern Dance IV (Advanced)

Location: Chautauqua Institution, Chautauqua, NY.

Length: 1. 40 hours (8 weeks).
2. 40 hours (8 weeks).
3. 40 hours (8 weeks).
4. 60 hours (8 weeks).

Dates: June 1974—Present.

Objective: To instruct the student in the technique, improvisation, and composition of modern dance.

Instruction: Personalized communicative expression through modern dance movement, including identification of logical precepts for correct body education. Floor and standing exercises; across-the-floor combinations using four basic elements of dance (motion, shape, space, and time); development of physical and perceptual skills; movement composition.

Credit recommendation: Course 1: In the lower division baccalaureate/associate degree category, 1 semester hour in Modern Dance (8/75). **Course 2:** In the lower division baccalaureate/associate degree category, 1 semester hour in Modern Dance (8/75). **Course 3:** In the upper division baccalaureate category, 1 semester hour in Modern Dance (8/75). **Course 4:** In the upper division baccalaureate category, 2 semester hours in Modern Dance (8/75). **All Courses:** An additional 1 semester hour at the same level is recommended for students completing a major in Modern Dance (8/75). NOTE: Credit should be awarded before the end of the second year following completion of a course. Credit may be awarded twice to students who complete the course more than one time.

SCHOOL OF MUSIC

The Music School offers an intensive seven-week program of study and related musical activities. The School is divided into a Senior Division and a Preparatory Division and also offers several specialized short-term workshops with leading musicians. The Senior Division, in addition to private instruction, offers students many opportunities for public performance in the Music School Festival Orchestra and chamber groups. Students are also encouraged to enroll in classes that will augment their performance experience. Twenty-one courses in the Senior Division, including piano, voice, clarinet, flute, and violin, have been evaluated, but the official course descriptions and credit recommendations were not available when this edition of the *Guide* went to press. Information on these courses may be obtained from the New York State Education Department.

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

COMMUNICATIONS WORKERS OF AMERICA

The Communications Workers of America (CWA) represents more than 600,000 workers including telephone operators, installers and repairmen, computer operators, social workers, and public employees. There are 900 CWA locals in all parts of the country.

The CWA's constitution mandates a training department at the national level as well as an education committee in each local. The training department develops material and administers programs for 5,000 new stewards and 3,000 advanced stewards each year. Over 1,000 local officers and stewards attend special one-week seminars each year; and every three years, over 3,000 newly-elected local officers attend a series of three-day seminars to acquaint them with their duties. Newly-appointed, full-time national staff representatives attend the CWA New Staff Training Program.

Source of official student records: Headquarters Staff/Training, Communications Workers of America, 1925 K Street, N.W., Washington, D.C. 20006.

New Staff Training

Location: AFL-CIO Labor Studies Center, Silver Spring, MD.

Length: 224 hours (6 weeks); residential.

Dates: April 1973—Present.

Objective: To provide students with specialized skills, knowledge, and materials applicable to their positions as international union staff.

Instruction: This six-week program is divided into morning classroom sessions, afternoon sessions that are primarily devoted to individual projects and structured learning situations, and two evening sessions per week devoted to demonstrations. The areas of concentration within the program are educational skills and resources, leadership process, design and implementation of training programs, legislative and political programs and problems, the practice of collective bargaining, and organizing techniques. **Week 1: Inventory of educational skills and resources.** Instruction emphasizes experience-based learning through project design, learning contracts, group-process exercises, and problem-solving aids. **Week 2: Leadership process.** Analysis of the leadership process within small groups, large organizations, and the community. Introduces the student to the design and implementation of training programs. **Week 3: Practice of collective bargaining.** Covers policies and methods of collective bargaining, using lectures, discussions, and simulation exercises. **Week 4: Legislative and political problems and programs.** Covers the legislative process and political action strategies (including fund-raising, voter registration, lobbying, and field trips to political party headquarters). **Week 5: Organizing techniques.** Covers union building through internal and external organizing techniques within the context of labor relations law and regulations. Role of National Labor Relations Board in representation elections and unfair labor practices. **Week 6:** Devoted to special topics and completion, presentation, and evaluation of final projects. Throughout the program, there is strong emphasis on self-directed learning under the guidance of a tutor. The participants are required to submit a learning contract for each week of the program, conduct two evening sessions, and complete and present a project during the final week of the program.

Credit recommendation: In the upper division baccalaureate category, 9 semester hours in Labor Studies or Social Science (9/75).

Additional information on this course may be obtained from:
Project on Noncollegiate Sponsored Instruction
American Council on Education

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.

Consolidated Edison is an investor-owned public utility with headquarters in New York City. The company supplies electricity and gas to customers in New York City and Westchester County, and also supplies steam to heat and air-condition major buildings in lower and midtown Manhattan. Con Edison has 25,000 employees.

The company offers a variety of educational activities to its employees, covering such areas as customer service, gas operations, administrative skills, welding, and electric construction. The Management and Professional Development staff develops management programs and courses designed to meet specific company needs by improving employees' overall managerial effectiveness. The courses are usually developed in response to formally stated corporate goals, a request for some specific training, or a management directive to do certain kinds of training.

Source of official student records: Training Administrator of Management and Professional Development, Consolidated Edison, Inc., Room 1849-S, 4 Irving Place, New York, New York 10003.

Assessor Training Workshop (MD-13)

Location: Company headquarters, 4 Irving Place, New York, N Y; or at a company-arranged facility.

Length: **Part 1:** 40 hours (1 week); residential.
Part 2: 40 hours (1 week); residential.

Dates: March 1974—Present.

Objective: To train management personnel to observe, record, and evaluate behavior objectively in order to assess the interpersonal and administrative abilities of employees.

Instruction: **Part 1:** Origins, history, and application of assessment techniques; principles, elements, and pitfalls of the perceptual process; definition and determination of abilities to be evaluated; function of the assessment center and its relation to the supervisory job; in-basket exercises and interviews; the background interview; report writing. Workshop format includes role playing, presentations, group discussion, critique, and audio-visual aids. **Part 2:** Observation of individuals in group discussion; preparing for and conducting background interviews; analysis of in-baskets with subsequent interviews; observation of simulated interviews; report writing; participation in a final evaluation discussion. Students work in individual consultation with the administrator/instructor.

Credit recommendation: **Part 1:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Personnel Administration (4/75). **Part 2:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Personnel Administration (4/75).

Communication (MD 10-1)

Refer to Management of Managers.

Conflict Management (MD-3)

Refer to Management of Managers.

Effective Writing Workshop (STC 11)

Location: Training facilities throughout the company.

Length: 32 hours (4 weeks); additional 28 hours of independent study and programmed instruction.

Dates: July 1973—Present.

Objective: To enable the student to achieve organization, clarity, and conciseness in business correspondence and report writing, including technical reports, through the application of specific techniques and editing skills.

Instruction: An intensive course in editing designed to save and strengthen use of words and to make business writing clearer and more concise. Besides editing techniques, eight English points are reviewed, after which the students complete a

"language checkup." Self-study English lessons are recommended when needed. The course includes daily written exercises (report excerpts) to teach individual editing techniques, a summary report (rewritten with students working in teams), and a 250-300 word report which is submitted near the end of the course for team editing and final approval.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Business, Business Education, or Engineering (9/75).

Management of Managers

1. **Communication (MD 10-1)**
2. **Conflict Management (MD-3)**
3. **Motivation Workshop (MD-6)**
4. **Problem Solving Workshop (MD-18)**

Location: Training facilities throughout the company.

Length: 1. 16 hours (2 days).
2. 24 hours (3 days).
3. 8 hours (1 day).
4. 16 hours (2 days).

Dates: 1. September 1974—Present.
2. January 1974—Present.
3. March 1975—Present.
4. September 1974—Present.

Objective: To provide students who have previous experience in management with an opportunity to apply relevant theory to practical situations.

Instruction: Utilization of conflict as a management tool; problem solving and decision making at an advanced management level; communications and motivation as factors in productivity. Instruction and training are accomplished through lectures, exercises, role playing, audio-visual aids, task force assignments, individual counseling, and followup.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (4/75).

Management Skills Training—Phase I (MD-8)

Location: Company headquarters, 4 Irving Place, New York, NY.

Length: 40 hours (1 week); residential.

Dates: December 1971—Present.

Objective: To assist supervisors in developing basic managerial skills required for performing their job functions.

Instruction: Management philosophy; problem solving; leadership styles; employee motivation; labor relations; communications; self-awareness. Combination of managerial theory input with simulations, role playing, group discussions, and subgroup exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Management Skills Training—Phase II (MD-8)

Location: Company headquarters, 4 Irving Place, New York, NY.

Length: 40 hours (1 week); residential.

Dates: December 1971—Present.

Objective: To assist supervisors in identifying basic managerial responsibilities required for effective performance in a supervisory capacity.

Instruction: Combination of lectures on managerial responsibilities with role playing and group discussion. Emphasis on special topics such as: equal employment opportunity, alcoholism and drug use, salary administration, problem solving, listening skills, and decision making.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Motivation Workshop (MD-6)

Refer to Management of Managers.

Performance Appraisal Program (MD-11)

Location: Training facilities at division or department headquarters.

Length: 23 hours (15 weeks).

Dates: May 1973—Present.

Objective: To assist managers in effectively using a corporate performance review system as a managing tool to measure and improve performance, to increase productivity, and to motivate and develop subordinates.

Instruction: Techniques and application of job analysis and evaluation. Defining job segments; developing measurable performance standards; performance analysis; setting specific objectives; appraisal development interview.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 1 semester hour in Management (4/75).

Problem Solving Workshop (MD-18)
Refer to Management of Managers.

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

EASTMAN KODAK COMPANY

The Eastman Kodak Company, headquartered in Rochester, New York, is among the 25 largest American companies and is the world's leader in photography. A highly diversified company, Kodak has marketing and distribution facilities around the globe, and manufacturing locations in 10 countries. The company employs 48,000 people in the Rochester area, and the worldwide company employment total is 120,700.

Kodak sponsors many courses for its employees to help insure sound and adequate training both for the person's present work and for future responsibilities which may be undertaken. Thorough on-the-job training is provided for all positions. In the various Kodak units, vocational, technical, professional, photographic, and management training is also provided according to the needs of the individual and the company.

Each division of the company has an active training or education department. It is these departments which arrange or conduct the courses listed below. A corporate training staff serves in liaison capacity between the divisional units and outside agencies.

Source of official student records: Director, Company Training, Eastman Kodak Company, 343 State Street, Rochester, New York 14650.

Effective Education Seminar

Location: Marketing Education Center, Rochester, N Y.; Marketing Education Center, Atlanta, GA; Marketing Education Center, San Francisco, CA.

Length: 50 hours (1 week); residential.

Dates: May 1974 – Present.

Objective: To provide persons responsible for directing or conducting training with the ability to analyze performance problems systematically and to design and implement solutions to such problems.

Instruction: Systems approach to performance analysis and instructional design. Procedures are prescriptive rather than proscriptive; they enable a student to conduct a systematic problem analysis, to consider educational (and noneducational) solutions to performance problems, and to make basic decisions as to cost-effectiveness.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Education (5/74).

1. Fundamentals of Computer Programming
2. Fundamentals of Computers and Data Processing

Location: Kodak Park Division, Rochester, N Y.

Length: 48 hours (8 weeks).

Dates: September 1971 – Present.

Objective: To provide students with knowledge of basic computer concepts and programming techniques prior to language courses.

Instruction: Course 1: Introduction to the various elements of computer program development. Importance of proper problem definition and planning to meet specific objectives; flowcharting used to represent the analysis and logical operations necessary to solve the problem; graphic solution then translated into coded instructions in a pseudoprogramming language; record layout design; data organization; systems and program documentation; operating systems concepts. **Course 2:** Background of basic concepts of processing data. Data representation and recording; computer equipment; how the computer is instructed to perform its task; and how this tool can assist in problem solving and providing information. Exercises and case studies are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Introduction to Computer Programming (5/74). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Fundamentals of Computers and Data Processing

Refer to Fundamentals of Computer Programming.

Fundamentals of Optical Engineering

Location: Kodak Apparatus Division, Rochester, N Y.

Length: 34 hours (15 weeks).

Dates: December 1966—Present.

Objective: To provide engineers and staff personnel with a better understanding of optical principles and systems.

Instruction: Basic optical systems; refraction and reflection of light; magnifiers; properties of lenses, mirrors, and prisms; images and their formation; optical instruments; image brightness, projection systems aperture stops, aberrations, vision, and lens manufacture.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Elementary Optical Engineering (5/74).

Instructional Process Workshop

Location: Marketing Education Center, Rochester, N Y.; Marketing Education Center, San Francisco, CA.

Length: Individualized independent study program (35-50 hours).

Dates: May 1973—Present.

Objective: To develop basic teaching skills for marketing education specialists in preparation for their first training assignments.

Instruction: Basic course in instructional technology, with an introduction to educational psychology, learning theory, and instructional strategies. Objectives; learning strategy; adult learning principles; developing a teaching plan; developing teaching materials; educational development process; media production process; logistical support process; presentation techniques; evaluation.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Education (5/74).

Photographic Science for New Professional and Technical People

Location: Kodak Park Division, Rochester, N Y.

Length: 60 hours (12 weeks).

Dates: September 1968—Present.

Objective: To provide new scientific and engineering personnel with the fundamentals of photographic science, theory, and technology early in their company careers.

Instruction: Study of photographic science, practices, theory, and technology. History of photography and description of the general photographic process, film, and paper manufacturing; negative-positive and reversal processes; emulsion composition, sensitometry and latent image theory; processing chemistry, image evaluation, exposure effects, and processing effects; spectrophotometry; color vision, color mixing, and principles of color photography; color films, papers, and processes; color sensitometry, dye behavior, and colorimetry; elements of duplicating and masking.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Photographic Science (5/74).

Photographic Technology I

Location: Photographic Training Area, Kodak Apparatus Division, Rochester, N Y.

Length: 36 hours (6 weeks); additional 40 hours of individual study.

Dates: March 1971—Present.

Objective: To provide the basic fundamentals of photographic technology to company employees whose jobs involve the use of knowledge of photographic materials, apparatus, and processes.

Instruction: Black and white photography, its materials, processes, and apparatus. Nature and behavior of light; camera exposure; processing and printing; photographic films and papers; latent image theory; sensitometry; chemistry; exposure and development effects and their application to current still and motion picture products. Multimedia learning experience, utilizing lecture and self-teaching instruction and hands-on training.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Basic Photography (5/74).

Technical Mathematics I

Location: Kodak Park Division, Rochester, N Y.

Length: 40 hours (10 weeks).

Dates: March 1972—Present.

Objective: To provide skilled trade apprentices with a course that can be applied to meet the mathematics requirements in an A.A.S. degree program (e.g., Electrical Technology, Mechanical Technology).

Instruction: Algebraic expressions and fundamental operations; linear equations and inequalities in one variable; analytic geometry in the plane

(ordered pairs, coordinate systems, linear functions); angles and angle measurement, trigonometric functions, and trig functions of any angle; graphs of the trig functions, systems of equations and inequalities (two equations in two unknowns and three equations in three unknowns).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester in Technical Mathematics (5/74).

Technical Mathematics II

Location: Kodak Park Division, Rochester, N Y.
Length: 40 hours (10 weeks).
Dates: March 1972 — Present.

Objective: To provide skilled trade apprentices with a course that can be applied to meet the mathematics requirements in an A.A.S. degree program (e.g., Electrical Technology, Mechanical Technology).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Technical Mathematics (5/74).

Instruction: Trigonometric formulas and oblique angles; vectors; laws of sines and cosines; complex numbers; quadratic equations and inequalities; verbal problems; theory of equations; logarithmic and exponential functions; conic sections (circle, parabola, ellipse, hyperbola).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

FEDERAL AVIATION ADMINISTRATION

The Federal Aviation Administration (FAA), a component of the United States Department of Transportation, serves primarily to insure aviation safety, promote air commerce, and support national security through management of the National Airspace System. Training programs are offered to employees in each of the 11 FAA regions in the United States.

AIRWAY FACILITIES TRAINING PROGRAM

The courses listed below are part of the training program of the Airway Facilities Services, which is responsible for the development, installation, and maintenance of Air Traffic Control facilities and equipment and aids to navigation. The Airway Facilities Services conducts an extensive training program, both within each region and in conjunction with the FAA national training facility. The courses fall into five groups: Navigational Aids, Radar, Data Systems, Communications, and Environmental Support.

The training progression, which leads to full performance or certification capability on designated types or pieces of equipment, generally includes directed study, courses taken in residence at the FAA Academy, and on-the-job training, followed by written and performance certification examinations. All technical training programs are conducted according to nationally prescribed standards. Frequently, centrally administered examinations (Prerequisite Validation Examinations) are available by which an employee may demonstrate knowledge or competence sufficient to waive a required course. Directed study courses are designed and administered by the FAA Academy and include supervised, closed-book final examinations. Although taken at home and on the job, the courses include guidance from the Academy and from supervisory personnel at the worksite. On-the-job training programs are designed by the FAA Academy and are administered by local supervisory personnel. On-the-job training objectives include expansion of previously completed training and/or preparation for subsequent courses.

Source of offical student records: Registrar Unit, AAC-911A, Federal Aviation Administration Academy, Aeronautical Center, P.O. Box 25082, 6500 S. MacArthur, Oklahoma City, Oklahoma 73125.

Advanced ILS/VOR Principles (40204)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: January 1967—Present.

Objective: To provide the technician with knowledge and skills in ILS/VOR principles necessary for successful completion of specific equipment courses.

Instruction: Vacuum tube power amplifiers; multivibrators; wave-shaping networks; amplitude modulation and demodulation; basic transmission lines; radiation patterns; introduction to VOR principles. The course is equally divided between classroom lectures and laboratory and problem-solving sessions. (Prerequisites: VHR Omnirange, OJT-I 43701 and VHF Omnirange [VOR] 44206.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Communications Electronics (3 lecture, 1 laboratory) (4/75).

1. Air Conditioning (40114)
2. Air Conditioning (44106)

Location: 1. FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

2. (Correspondence).

Length: 1. 120 hours (3 weeks).
2. Directed study (approximately 30 hours).

Dates: May 1969—Present.

Objective: To train personnel responsible for the installation, maintenance, and repair of air conditioning units of a maximum capacity of 10 tons.

Instruction: Basic terminology and principles of air conditioning. Safety precautions; function of components and controls of air conditioning systems used by the FAA; interpretation and utilization of enthalpy diagrams and psychrometric charts; interpretation of electrical diagrams of major FAA air conditioning systems; selection of refrigerant piping and accessories; operation and use of associated test equipment and tools; maintenance and servicing procedures. (Prerequisite: Electrical Principles 40100.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Air Conditioning and Heating (1 lecture, 2 laboratory) (7/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

AN/GRN-27 (Category II ILS) (40232)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: August 1973—Present.

Objective: To train technicians responsible for the installation, evaluation, modification, and maintenance of the AN/GRN-27 (Category II ILS).

Instruction: Transmitter unit; battery charger; AC/DC converter; identification unit; far field monitor; control unit; remote status and control unit; marker beacon; overall system operation and performance. Half of the course is devoted to laboratory exercises which include the making of checks and adjustments and the diagnosis of malfunctions in the system. (Prerequisites: ILS Concepts 40233, Solid State Devices 44509 or 44712, and Digital Logic Principles 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (4/75).

ARTCC Boilers (43439)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: March 1972—Present.

Objective: To train stationary engineers and technicians responsible for the operation and maintenance of boiler systems.

Instruction: Boiler theory; boiler construction; evaluation and maintenance of boiler systems; fault diagnosis and repair procedures; water testing and treatment; boiler tube replacement methods; preventive maintenance and boiler safety. (Prerequisite: ARTCC Environmental Conditioning and Controls 43438.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Air Conditioning and Heating (1 lecture, 2 laboratory) (7/75).

ARTCC Environmental Conditioning and Controls (43438)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: March 1972—Present.

Objective: To train personnel in the maintenance, calibration, and operation of Johnson pneumatic controls and devices for air conditioning.

Instruction: Psychrometrics of air; fundamentals of pneumatic control; installation and operation of pneumatic controllers and controlled devices; interface of electrical control of air handling equipment; operation of test equipment for fault diagnosis and calibration; performance evaluation and maintenance of pneumatic control systems. (Prerequisite: Air Conditioning 40114.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Air Conditioning and Heating (1 lecture, 2 laboratory) (7/75).

ARTCC Heavy-Duty Air Conditioning (43440)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: September 1972—Present.

Objective: To train personnel responsible for the operation, maintenance, and evaluation of air conditioning chiller systems.

Instruction: Centrifugal chillers; motors and controls; water distribution equipment; water conditioning; air handling and auxiliary equipment;

performance evaluation and maintenance procedures. (Prerequisite: ARTCC Environmental Conditioning and Controls 43438.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Air Conditioning and Heating (1 lecture, 1 laboratory) (7/75).

ARTCC Standby Power and Distribution System (43449)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 240 hours (6 weeks).

Dates: September 1972—Present.

Objective: To train personnel responsible for the installation, maintenance, and performance testing of the standby power and distribution system.

Instruction: Automatic power breakers and control panel circuits; automatic synchronizing panel circuits and related switchgear components; operation, testing, and fault diagnosis and correction. (Prerequisites: Environmental Support Systems Concepts 40117 and 550 Engine Generators 40116.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Engineering Technology (Standby Power Systems) (2 lecture, 2 laboratory) (7/75).

ARTS III for Supervisors (42003)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 240 hours (6 weeks).

Dates: February 1975—Present.

Objective: To provide the supervisor with technical background necessary for the supervision of ARTS III System technicians.

Instruction: Complete system overview. System introduction; display keyboard operation; data processing subsystem; data acquisition subsystem; peripheral adapted module; data entry and display subsystem; computer fundamentals; ARTS III programming; diagnostic utility and operational programs; the inter-facility data set. (Prerequisites: Digital Logic Principles 40402 and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Computer Technology (4 lecture, 2 laboratory) (6/75).

ARTS III for Technicians (42004)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 840 hours (21 weeks).

Dates: March 1973—Present.

Objective: To train technicians responsible for the installation, maintenance, and repair of an Automated Radar Terminal System.

Instruction: Overall system introduction; digital electronics and logic of data acquisition subsystem and peripheral adapter module (data entry and display subsystem, input-output processor, inter-facility data set, ARTS III programming, operational program organization, diagnostic programs, and system evaluation). Course consists of formal classroom lectures, supervised problem sessions, and laboratory exercises conducted on an operating ARTS III system. (Prerequisites: Radar Principles A 40329, Digital Logic Principles 40402, and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 21 semester hours in Computer Technology (9 lecture, 12 laboratory) (6/75).

1. ARTS III Technician Update (42005)
2. ARTS III Technician Update (44413)

Location: 1. FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.
2. (Correspondence).

Length: 1. 120 hours (3 weeks).
2. Directed study (approximately 160 hours).

Dates: 1. May 1974—Present.
2. September 1973—Present.

Objective: To train the technician in basic programming concepts and techniques needed for the use and operational software analysis of the ARTS III System.

Instruction: Software programming; operational features and alignment of the Inter-facility Data System; use of diagnostic and utility programs for analyzing and evaluating the system. (Prerequisite: ARTS III for Technicians 42004.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Computer Technology (3 lecture, 2 laboratory) (6/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

ASR-4/5/6 System (40304)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: December 1966—Present.

Objective: To train technicians responsible for the maintenance of Airport Surveillance Radar Systems.

Instruction: Complete terminal radar block diagrams and timing sequences; detailed study of individual units and circuits. Laboratory sessions include fault diagnosis, use of test equipment, and routine checks and adjustments. (Prerequisites: ASR-4/5/6 OJT-I 43750, Radar Principles A 40329, and Radar Principles B 40330.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Pulse Electronics (1 lecture, 2 laboratory) (6/75).

ATCBI-3 Transmitter/Receiver/Indicator Sites (40318)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: February 1969—Present.

Objective: To train technicians responsible for the maintenance of the ATCBI-3 Transmitter/Receiver and Indicator Site equipment.

Instruction: System concepts; pulse mode generator; transmitter; side lobe suppression; receiver; storage tube defruiter; monitors; control circuits; decoder; beacon test set. Laboratory sessions include system alignment, system performance analysis, fault diagnosis, and use of test equipment. (Prerequisites: ATCBI-3 OJT-I 43756, ATCBI-3 Transmitter/Receiver/Indicator Sites [directed study] 44316, Radar Principles A 40329, and Radar Principles B 40330.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering Technology (Communications Electronics) (1 lecture, 2 laboratory) (6/75).

Automatic Program Unit Low Speed (40004)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: January 1965—Present.

Objective: To train technicians responsible for the installation and maintenance of the Automatic Program Unit Low Speed equipment.

Instruction: Theory and operation of the APULS equipment which sequentially selects a number of remote teletype terminals on a common line. (Prerequisites: Solid State Devices 44509 and Digital Logic Principles 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Data Transmission (1 lecture, 1 laboratory) (6/75).

Back-Up Emergency Communications System ARTCC (40009)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: November 1970—Present.

Objective: To train technicians responsible for the installation, maintenance, and evaluation of the Back-Up Emergency Communications Systems at air route traffic control centers.

Instruction: Functional description of the system; detailed technical analysis of the VHF/UHF transceivers and remote control group, including the digital processor. Laboratory sessions include fault diagnosis, performance analysis, test procedures, use of test equipment, and routine checks and adjustments. (Prerequisites: Solid State Devices 44509 and Digital Logic Principles 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Communications Electronics (1 lecture, 2 laboratory) (6/75).

Bright Radar Indicator Tower Equipment, BRITE-1 (40311)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: March 1969—Present.

Objective: To train technicians responsible for the maintenance of the Bright Radar Indicator Tower equipment.

Instruction: Study and analysis of system functions by major blocks. Differential amplifiers; indicator deflection and rotation circuits; video combining and compensation; storage vidicon theory

and circuits; camera and display deflection circuits; 945 line raster and grating bar logic; high voltage supplies. Laboratory sessions develop skills in fault diagnosis, system performance analysis, alignment, test procedures, use of test equipment, and routine checks and adjustments. (Prerequisites: Radar Principles A 40329 and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electronic Technology (Video Electronics) (1 lecture, 2 laboratory) (7/75).

CDC Display for Technicians (43426)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 400 hours (10 weeks).

Dates: December 1969—Present.

Objective: To train technicians responsible for the installation, maintenance, and repair of the Computer Display Channel Display Subsystem.

Instruction: Digital electronics and logic of: radar controls; radar keyboard multiplexer; display generator; plan view display. Laboratory sessions include routine equipment checks, alignment, test procedures, use of test equipment, and fault diagnosis. (Prerequisites: Introduction to CDC Display 44410, Solid State Devices 44509, and Digital Display 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 10 semester hours in Computer Technology (4 lecture, 6 laboratory) (6/75).

Coded Time Source (43001)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 48 hours (6 days).

Dates: April 1969—Present.

Objective: To train technicians responsible for the installation and maintenance of the Coded Time Source.

Instruction: Coded Time Source design logic; WWV receiver; error detection and switchover unit; fail-safe power supplies; audio-taped time display unit. Laboratory exercises include maintenance procedures for the system. (Prerequisites: Solid State Devices 44509 and Digital Logic Principles 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Electronics Technology Laboratory (6/75).

Common Digitizer AN/FYQ-49 (43402)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 640 hours (16 weeks).

Dates: December 1969—Present.

Objective: To provide the technician with basic background needed to understand the principles of operation of an A/D conversion and processing system for radar beacon systems.

Instruction: A functional analysis of an integrated circuit data processor that accepts analog and digital information to: detect aircraft targets; determine target characteristics; process target information; and produce serial target digital output messages. Laboratory sessions include the making of checks and adjustments and the diagnosis of malfunctions in the system. (Prerequisites: Common Digitizer (directed study) 44405, Radar Principles A 40329, Digital Logic Principles 40402, and Solid State Devices 44509.)

Credit recommendation: In the upper division baccalaureate category, 12 semester hours in Engineering Technology (Pulse and Digital Electronics) (9 lecture, 3 laboratory) (6/75).

Common Digitizer Height AN-FYQ-47 (43404)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 760 hours (19 weeks).

Dates: December 1969—Present.

Objective: To provide the technician with basic background needed to understand the principles of operation of an A/D conversion and processing system for radar beacon systems.

Instruction: A functional analysis of an integrated circuit data processor that accepts analog and digital information to: detect aircraft targets; determine target characteristics; process target information, including altitude mode reporting; and produce serial target digital output messages. Laboratory sessions include the making of checks and adjustments and the diagnosis of malfunctions in the system. (Prerequisites: Common Digitizer [directed study] 44405, Radar Principles A 40329, Digital Logic Principles 40402, and Solid State Devices 44509.)

Credit recommendation: In the upper division baccalaureate category, 13 semester hours in Engineering Technology (Pulse and Digital Electronics) (9 lecture, 4 laboratory) (6/75).

Communications Equipment (40007)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 320 hours (8 weeks).

Dates: November 1969—Present.

Objective: To provide the technician with a background in communications electronics and its application to UHF and VHF communications equipment maintenance.

Instruction: Theory and operation of UHF and VHF transmitters and receivers; audio, remote control, and tone channeling equipment. Laboratory sessions include fault diagnosis, performance analysis, test procedures, use of test equipment, and routine checks and adjustments. (Prerequisites: Electronic Fundamentals and Engineering Mathematics 44504 and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Communications Electronics (6 lecture, 2 laboratory) (6/75).

Computer Display Channel for Engineers (43418)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 320 hours (8 weeks).

Dates: July 1970—Present.

Objective: To train engineers and software specialists responsible for the installation, maintenance, and evaluation of Computer Display Channel equipment.

Instruction: Basic Assembler Language programming, data strings, system theory and capability; data flow, control paths, and error analysis. Laboratory sessions include identification of all subassemblies and controls, operation of the Computer Display Channel System from the unit maintenance panels, operation of test equipment required to locate faults or system degradation, and the use of test and diagnostic programs. (Prerequisite: System Familiarization and BAL Programming 43458.)

Credit recommendation: In the upper division baccalaureate category, 7 semester hours in Computer Technology and/or Data Processing (3 lecture, 4 laboratory) (7/75).

Computer Display Channel Software (43451)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 320 hours (8 weeks).

Dates: October 1972—Present.

Objective: To train system performance specialists responsible for the maintenance of Computer Display Channel software.

Instruction: Functional analysis and operation of peripheral equipment and I/O channel processor diagnostic programs. (Prerequisites: NAS En Route Operational Program 43420 and CDC For Engineers 43418.)

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Computer Technology (2 lecture, 4 laboratory) (7/75).

Computer Update Equipment (43416)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 240 hours (6 weeks).

Dates: August 1971—Present.

Objective: To train technicians responsible for the installation, maintenance, and repair of the Raytheon computer update equipment.

Instruction: Computer readout display; common logic unit; keyboard and quick-action panel; non-radar keyboard multiplexer interface, logic, and memory; power distribution and AC power. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Computer Technology (2 lecture, 3 laboratory) (6/75).

Data Receiving Group (DRG) Inter-Facility Data Set (IFDS) (43417)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 144 hours (3-1/2 weeks).

Dates: July 1969—Present.

Objective: To train technicians responsible for the Data Receiving Set and Inter-Facility Data Set digital equipment.

Instruction: A functional analysis of the data receiving group and the inter-facility data set; detailed analysis of all equipment functions. Laboratory sessions include the operation, adjustment, measurements, and fault diagnosis of the equipment. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Technology (1 lecture, 2 laboratory) (7/75).

DCC Software (43452)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: February 1973—Present.

Objective: To train systems performance specialists responsible for the maintenance of Display Channel Complex software.

Instruction: Functional analysis and operation of Display Channel Complex diagnostic programs. Emphasis is on problem analysis and operational aspects of the software package as related to the National Airspace System En Route system operation. (Prerequisites: NAS En Route Operational Program 43420, Display Channel Complex for Engineers 43431, and IBM 9020 System Familiarization and BAL Programming 43458.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Computer Technology (1 lecture, 3 laboratory) (7/75).

1. Diesel Engine Generators (44102)
2. 550-KW Diesel Engine Generators (40116)

Location: 1. (Correspondence).
2. FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 1. Directed study (approximately 45 hours).
2. 80 hours (2 weeks).

Dates: 1. October 1965—Present.
2. September 1972—Present.

Objective: To train personnel responsible for the operation, maintenance, and performance testing of 550 KW diesel engine generators.

Instruction: Overview of diesel engine generators. Operation; fuel systems; air starting system; hydraulic governor; turbocharger; auxiliary equipment; load balancing of cylinders; crankshaft deflection; engine generator coupling alignment; control panels; safety devices. Maintenance and evaluation of overall performance of the engine and auxiliary equipment. (Prerequisites for Course 2: Diesel Engine Generators 44102 and Gasoline and Diesel Engine Generators 40118.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Engineering Technology (Standby Power Systems) (1 lecture, 1 laboratory) (7/75).

Digital Logic Principles (40402)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: January 1971—Present.

Objective: To provide the technician with a basic background in digital logic which can be applied to specific equipment courses.

Instruction: Number systems and operations; coding; Boolean algebra; Karnaugh maps; logic networks; sequential networks; introduction to computers.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Digital Logic Principles (4/75).

Display Channel Complex for Engineers (43431)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: September 1972—Present.

Objective: To train systems engineers responsible for the installation and maintenance of the Display Channel Complex of the National Airspace System.

Instruction: Functional and operational aspects of the Display Channel Complex from a computer system standpoint. Emphasis is placed on systems analysis through laboratory exercises. (Prerequisites: CCC for Engineers 43463 and IBM 9020 System Familiarization and BAL Programming 43458.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Computer Technology (1 lecture, 3 laboratory) (7/75).

Doppler VOR System (40207)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: November 1969—Present.

Objective: To train technicians responsible for the installation, maintenance, and evaluation of Doppler VOR equipment.

Instruction: The Doppler principle; FM capture effect; specialized radiation patterns; theoretical and practical differences between the Doppler VOR and conventional VOR systems. (Prerequisite: VHF Omnirange Equipment (VOR) 40205.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Communications Electronics (4/75).

Electrical Principles (40100)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: January 1965—Present.

Objective: To provide background in basic electricity needed by technicians responsible for the maintenance of electromechanical equipment.

Instruction: Review of basic mathematics; fundamental principles of electricity; batteries, Ohm's law, series and parallel circuits; electrical conductors; alternating current, inductance, capacitance, and reactance; use of common electrical measuring instruments; introduction to generators, motors, and transformers; single- and three-phase power distribution; power and control cable repair; practical methods of locating cable troubles. (Prerequisite: Foundation Mathematics 44510 or 44502—first six lessons.)

Credit recommendation: In the lower division baccalureate/associate degree category, 5 semester hours in Basic Electricity (3 lecture, 2 laboratory) (6/75).

Electronic Fundamentals and Engineering Mathematics (44504)

Location: (Correspondence).

Length: Directed study (approximately 280 hours).

Dates: January 1964—Present.

Objective: To provide the technician with basic background in electronics which can be applied to the installation, maintenance, and evaluation of electronic equipment.

Instruction: Basic mathematics; algebra; logarithms; determinants; complex algebra; trigonometry and graphing of functions in reactangular, polar, and spherical coordinates; Ohm's law; Kirchoff's laws; DC and AC circuits; superposition, Thevenin's and Norton's theorems; series, parallel, and resonant circuits; basic vacuum tubes, semiconductors, and classification of amplifiers. (Prerequisite: Foundation Mathematics 44502.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in DC/AC Circuit Theory and 3 semester hours in Mathematics (4/75).

En Route Radar System ARSR-1/2 (40307)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: March 1975—Present.

Objective: To train technicians responsible for the installation, maintenance, and evaluation of the ARSR-1/2 En Route Radar System.

Instruction: Complete terminal radar block diagrams and timing sequences; detailed study of individual units and circuits. Laboratory sessions include fault diagnosis, system performance analysis, alignment, test procedures, use of test equipment, and routine checks and adjustments. (Prerequisites: Radar Principles A 40329, Radar Principles B 40330, Digital Logic Principles 40402, and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate associate degree category, 3 semester hours in Pulse Electronics (1 lecture, 2 laboratory) (6/75).

1. Environmental Support System Concepts (40117)
2. Solid State Fundamentals for Electromechanics (40115)
3. Solid State Fundamentals for Electromechanics (44107)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.
3. (Correspondence).

Length:
1. 80 hours (2 weeks).
2. 80 hours (2 weeks).
3. Directed study (approximately 160 hours).

Dates:
1. March 1972—Present.
2. April 1970—Present.
3. March 1972—Present.

Objective: To provide an introduction to electronics to technicians responsible for the maintenance of electromechanical equipment.

Instruction: Semi-conductor devices: diodes; bipolar and field effect transistors; SCRs; unijunction transistors. Basic application of rectifiers, basic amplifiers, gates, and multivibrators. (Prerequisite for Course 3: Electrical Principles 40100.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Introduction to Electronics (2 lecture, 2 laboratory) (7/75). NOTE: Courses 1 and 2 or Courses 1 and 3 must both be completed in order to receive credit.

1. Flight Data Entry and Printout (44407)
2. Flight Data Entry and Printout Equipment (43409)

Location: 1. (Correspondence).
2. FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 1. Directed study (approximately 26 hours).
2. 160 hours (4 weeks).

Dates: June 1970—Present.

Objective: To train technicians responsible for the installation, evaluation, and maintenance of Flight Data Entry and Printout equipment.

Instruction: Control unit keyboard and printer; power supply line timer; logic; TTY adapter. Most of the course is devoted to laboratory exercises which include on-line trouble analysis and the diagnosis of malfunctions in the system. (Prerequisites: Solid State Devices 44509 and Digital Logic Principles 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology (1 lecture, 2 laboratory) (6/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Flight Data Entry and Printout Equipment (43409)

Refer to Flight Data Entry and Printout (44407).

Foundation Mathematics (44502)

Location: (Correspondence).

Length: Directed study (approximately 150 hours).

Dates: September 1967—Present.

Objective: To provide the technician with basic skills and knowledge of foundation mathematics essential for successful completion of specific equipment courses.

Instruction: Review of arithmetic; elementary algebra (polynomials, linear and quadratic equations, and factoring) with application to electrical circuit problems involving batteries, motors, efficiency, and power; elementary trigonometric functions and logarithms. Text: Cooke and Adams, *Basic Mathematics for Electronics* (Third Edition).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Natural Sciences (4/75).

Gasoline and Diesel Engine Generators (40118)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: July 1974—Present.

Objective: To train personnel responsible for the installation, maintenance, and performance testing of standby engine generators.

Instruction: System principles; control panels for gasoline and diesel engine generator systems; exciters and alternators; magnetic and solid state voltage regulators; batteries and starters; hydraulic and electronic governors; ignition systems; carburetors; high- and low-pressure fuel pumps; fuel injectors; lubricating and cooling systems. Laboratory exercises include maintenance, fault diagnosis, and repair of 40-240 KW auxiliary power systems. (Prerequisite: Solid State Fundamentals for Electromechanics 44107.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Engineering Technology (Standby Power Systems) (2 lecture, 2 laboratory) (7/75).

IBM 2314-A1 Direct Access Storage Facility (43437)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: March 1972—Present.

Objective: To train technicians responsible for the operation and maintenance of the IBM 2314 disk control unit and IBM 2312 disk drive.

Instruction: Mechanical and logical analysis of disk drive unit operations; adjustment and error diagnosis of the disk drive unit; logical analysis of storage control unit; resident and on-line microdiagnostic testing; software diagnostic testing; preventive maintenance procedures. (Prerequisite: IBM 9020 A Processing 43461 or IBM 9020 D/E Processing 43462.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology (1 lecture, 2 laboratory) (7/75).

IBM 9020 A/D PAM and System Control (43460)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: October 1974—Present.

Objective: To train technicians responsible for the maintenance of the Peripheral Adapter Module, the Flight Strip Printer Control Module, and the system console.

Instruction: Operating principles and maintenance procedures for the Peripheral Adapter Module, the Flight Strip Printer Control Module, and the system console associated with the IBM 9020 system; multiplexer principles and parallel data to serial data conversion. Laboratory exercises include on-line trouble analysis and the diagnosis of malfunctions in the system. (Prerequisite: IBM 9020 Input/Output Equipment 43459.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Computer Technology (2 lecture, 2 laboratory) (7/75).

IBM 9020 CCC for Engineers (43463)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 280 hours (7 weeks).

Dates: November 1974—Present.

Objective: To train engineers and software specialists responsible for the maintenance of the Central Computer (IBM 9020) Complex.

Instruction: Operation of the IBM 9020 system or a subsystem from the System Console or individual element control panels; system configuration, operation, and loading of programs to accomplish all system functions; evaluation of control and data paths within the system; analysis and use of the four system operational states; use of parity generation and checking methods. The course includes lectures and laboratory experiences. (Prerequisite: IBM 9020 System Familiarization and BAL Programming 43458.)

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Computer Technology (2 lecture, 4 laboratory) (7/75).

IBM 9020 D/E Processing (43462)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 800 hours (20 weeks).

Dates: January 1975—Present.

Objective: To train technicians responsible for the operation and maintenance of the computer, storage, and I/O control elements of the IBM 9020 Central Processor.

Instruction: Computer organization and architecture; registers, buffers, and data flow; timing, sequencing, and addressing; microprogramming; dumps, diagnostics, and parity checks; principles of core storage; multiplexing and input/output control. Laboratory sessions include test procedures and fault diagnosis. (Prerequisite: IBM 9020 Input/Output Equipment 43459.)

Credit recommendation: In the upper division baccalaureate category, 15 semester hours in Computer Technology (6 lecture, 9 laboratory) (7/75).

IBM 9020 E Option Specialty (43430)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 240 hours (6 weeks).

Dates: November 1971—Present.

Objective: To train technicians responsible for the operation and maintenance of the data computer processor element of the IBM 9020 Central Processor.

Instruction: Operating principles and maintenance procedures for the data computer processor. Display element; configuration console; adapter units; power supply; Display Channel Complex display operational program software. Laboratory exercises include test procedures and fault diagnosis. (Prerequisite: IBM 9020 D/E Processing 43462.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Computer Technology (1 lecture, 3 laboratory) (7/75).

IBM 9020 Input/Output Equipment (43459)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 280 hours (7 weeks).

Dates: August 1974—Present.

Objective: To train technicians responsible for the operation and maintenance of the input/output

equipment associated with the Central Computer Complex Processor.

Instruction: Operating principles and maintenance procedures. Tape control and transport units; integrated control units; card read/punch equipment; line printers. (Prerequisite: IBM 9020 System Familiarization and BAL Programming 43458.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Electromechanical Technology (2 lecture, 3 laboratory) (7/75).

IBM 9020 Peripheral Devices (43457)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: September 1974—Present.

Objective: To train technicians responsible for the operation and maintenance of specific peripheral and unit record equipment.

Instruction: Operating principles and maintenance procedures. 1980 flight strip printer; 1052 input/output typewriter; IBM 029 card punch; IBM 129 card punch-print-verifier. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology (1 lecture, 2 laboratory) (7/75).

IBM 9020 System Familiarization and BAL Programming (43458)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 320 hours (8 weeks).

Dates: July 1974—Present.

Objective: To train engineers, technicians, and software specialists responsible for the operation of IBM 9020 facilities.

Instruction: IBM 9020 system familiarization and operation; computer organization; machine language programming; Basic Assembler Language programming; utility language programming; general familiarization of diagnostic software and peripheral devices. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the upper division baccalaureate category, 7 semester hours in Computer Technology and/or Data Processing (4 lecture, 3 laboratory) (7/75).

ILS (AIL Mark Ib) (40236)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: July 1972—Present.

Objective: To train technicians responsible for the installation, evaluation, modification, and maintenance of the AIL Mark Ib ILS.

Instruction: Transmitter unit; modulator; monitor; status control and status unit; oscillator keyer; remote monitor receiver; flight inspection; overall system operation and performance. Half of the course is devoted to laboratory exercises which include the making of checks and adjustments and the diagnosis of malfunctions in the system. (Prerequisites: ILS Concepts 40233 and Solid State Devices 44509 or 44712.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (4/75).

1. ILS Capture Effect Glide Slope (40240)
2. ILS Problem Analysis (40246)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 1. 40 hours (1 week).
2. 80 hours (2 weeks).

Dates: 1. September 1973—Present.
2. November 1973—Present.

Objective: To train engineers and senior technicians responsible for the installation, evaluation, and solution of complex problems associated with Instrument Landing Systems.

Instruction: Capture effect glide slope equipment; V-Ring optimization; monitoring systems; traveling wave antenna; ILS site analysis; interference to localizer/glide slope signals; marker beacon problems; theodolite placement; computer analysis of radiation patterns. Laboratory exercises include checks and adjustments associated with a capture effect glide slope facility, V-Ring optimization, and problem-solving situations in which students analyze flight recordings and determine location of interference to localizer/glide slope signals. (Prerequisite: ILS [Tube Type] 40234 or AN/GRN-27 [Category II ILS] 40232 or ILS [Wilcox Mark Ia] 40235 or ILS [AIL Mark Ib] 40236.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering Technology (2 lecture, 1 laboratory (4/75).

NOTE: Courses 1 and 2 must both be completed in order to receive credit.

ILS Concepts (40233)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: July 1972—Present.

Objective: To provide the technician with communications electronics concepts common to several Instrument Landing Systems which can be applied to specific equipment courses.

Instruction: Difference in depth of modulation; proximity effects; null reference glide slope radiation patterns and monitor networks; V-Ring localizer radiation patterns; monitor networks. The course is equally divided between classroom lectures and laboratory exercises. (Prerequisite: Advanced ILS/VOR Principles 40204.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Communications Electronics (4/75).

ILS Problem Analysis (40246)

Refer to ILS Capture Effect Glide Slope (40240).

ILS (Tube Type) (40234)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: July 1972—Present.

Objective: To train technicians responsible for the installation, evaluation, modification, and maintenance of tube-type instrument landing systems.

Instruction: Localizer subjects: transmitter; sideband generator (mechanical and electronic); modulation bridge; hybrid unit; RF distribution; monitor; control circuits; 8-loop antenna array; overall facility operation and performance. Glide slope subjects: transmitter; mechanical modulator; RF distribution; monitor; control circuits; overall facility operation and performance. Marker beacon subjects: transmitter and antenna array. Half of the course is devoted to laboratory exercises which include the making of checks and adjustments and the diagnosis of malfunctions in the system. (Prerequisite: ILS Concepts 40233.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (4/75).

ILS (Wilcox Mark Ia) (40235)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: July 1972—Present.

Objective: To train technicians responsible for the installation, evaluation, modification, and maintenance of the Wilcox Mark Ia ILS.

Instruction: Transmitter unit; modulator; monitor; status control and status unit: oscillator keyer; remote monitor receiver; flight inspection; overall system operation and performance. Half of the course is devoted to laboratory exercises which include the making of checks and adjustments and the diagnosis of malfunctions in the system. (Prerequisites: ILS Concepts 40233 and Solid State Devices 44509 or 44712.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (4/75).

Introduction to the IBM 9020 Central Computer Complex (44404)

Location: (Correspondence).

Length: Directed study (approximately 115 hours).

Dates: April 1968—Present.

Objective: To provide the technician with an introduction to the IBM Central Computer Complex.

Instruction: Binary and hexadecimal number systems; computer organization; National Airspace System concepts; machine language and Basic Assembler Language programming concepts; system monitoring and control concepts. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computer Technology and/or Data Processing (7/75).

JOVIAL Programming (43464)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: October 1974—Present.

Objective: To train engineers and software specialists in the JOVIAL higher level language.

Instruction: Fundamentals of programming in the JOVIAL language used in the real-time operation of the National Airspace System. (Prerequisite: IBM 9020 System Familiarization and BAL Programming 43458.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computer Programming (7/75).

Model 29/35 Teletype Equipment (40012)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: June 1971—Present.

Objective: To train technicians responsible for the installation, maintenance, and evaluation repair of electromechanical communications equipment.

Instruction: The course consists of classroom study and laboratory experience in the operating principles, installation, and maintenance of teletype equipment. (Prerequisite: Basic Electricity 44101 or Electrical Principles 40100 or Communications Equipment 40007.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology (1 lecture, 2 laboratory) (6/75).

1. Multi-Channel Recorders (43600)
2. Multi-Channel Recorders (44002)

Location: 1. (On-the-job training).
2 (Correspondence).

Length: 1. On-the-job training (approximately 53 hours).
2. Directed study (approximately 62 hours).

Dates: November 1967—Present.

Objective: To train personnel responsible for the installation, maintenance, and evaluation of Multi-channel Recorders.

Instruction: Basic principles of magnetic tape recorders and reproducers; specific equipment-type familiarization; minor adjustments; basic test procedures; simple element replacements on several types of recorders/reproducers.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (1 lecture, 1 laboratory) (7/75).

NAS En Route Automation I/O Equipment for Engineers (43412)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: March 1971—Present.

Objective: To train systems engineers in the principles of the National Airspace System Automation Input/Output Equipment.

Instruction: Power systems; coded time source; computer update equipment; printing card punch; flight strip printer and I/O typewriter; flight strip printer control module; flight data entry and printout equipment. Laboratory sessions include test procedures and fault diagnosis. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computer Technology (1 lecture, 1 laboratory) (7/75).

NAS En Route Operational Program for Engineers (43420)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: October 1972—Present.

Objective: To train engineers and software specialists in the NAS En Route Air Traffic Control operational program.

Instruction: Functions, capabilities, and limitations of the National Airspace System (NAS) En Route Air Traffic Control (ATC) operational program; analysis of system problems associated with the air traffic control functions; resolution of hardware-software conflicts arising with the NAS Environment; monitoring and evaluation of system performance and status of the NAS. This course does not include the radar data processing portion of the ATC operational program. (Prerequisite: JOVIAL Programming 43464.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer Technology (1 lecture, 2 laboratory) (7/75).

Power Conditioning System (43433)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 320 hours (8 weeks).

Dates: March 1972—Present.

Objective: To train personnel responsible for the maintenance, installation, and performance testing of power conditioning systems.

Instruction: Power conditioning system concepts; functional description and circuit analysis; system operation, testing, and maintenance procedures; fault diagnosis and correction. (Prerequisite: ARTCC Standby Power and Distribution System 43449.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Electrical Technology (2 lecture, 3 laboratory) (7/75).

Principles of Digital Logic and Data Processing (44411)

Location: (Correspondence).

Length: Directed study (approximately 100 hours).

Dates: July 1972—Present.

Objective: To provide the technician with a basic background in digital logic which can be applied to specific equipment courses.

Instruction: Number systems and operations; coding; Boolean algebra; simple logic circuits and flip-flops.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Digital Logic Principles (7/75).

Radar Bright Display Equipment, RBDE-6 (40324)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: August 1970—Present.

Objective: To train technicians responsible for the installation and maintenance of the Radar Bright Display Equipment.

Instruction: Study and analysis of system functions by major blocks; read and write deflection, dynamic focus, and video circuitry; dual-gun storage tube principles, adjustment, and operation; horizontal display; interrelated control functions. Laboratory sessions include fault diagnosis, performance analysis, alignment, test procedures, use of test equipment, and routine checks and adjustments. (Prerequisites: Radar Principles A 40329 and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Video Electronics (2 lecture, 2 laboratory) (6/75).

Radar Data Acquisition System (43400)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: November 1968—Present.

Objective: To train systems engineers in the principles of the Radar Data Acquisition System.

Instruction: Functional analysis of the Radar Data Processing Subsystem. Subsystem parameters; overall block diagram analysis of search radar, beacon, common digitizer, modem, and data receiver group equipment; evaluation of subsystem performance. Laboratory sessions develop skills in fault diagnosis, system performance analysis, test procedures, and use of test equipment. (Prerequisite: Basic knowledge of mathematics, electronics, and digital logic.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Electronics Technology (2 lecture, 1 laboratory) (7/75).

Radar Microwave Link System RML-1/2/3/4 (RML-T/R) (40322)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: September 1969—Present.

Objective: To train technicians responsible for the maintenance of Radar Microwave Link Systems.

Instruction: Detailed circuit analysis within all modules of the system. Frequency modulation; frequency mixing and multiplexing; carrier channels; single sideband; carrier filtering and reconstruction; modulation-demodulation. Laboratory sessions include system performance analysis, test procedures, calibration, and use of test equipment. (Prerequisites: Radar Principles A 40329, Radar Principles B 40330, and Radar Microwave Link Systems [directed study] 44313.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Communications Electronics (1 lecture, 2 laboratory) (6/75).

Radar Principles A (40329)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 280 hours (7 weeks).

Dates: December 1970—Present.

Objective: To develop detailed knowledge of the basic circuits used in communications systems and to provide an introduction to radar principles and circuits.

Instruction: Circuit analysis topics: network theorems; vacuum tubes; transistors; operational amplifiers; regulated power supplies; special solid state devices; transistors in RC circuits; clippers; sweep circuits; transients in RL and RLC circuits; the ringing circuits; the RL differentiator; multivibrators; phantastroms; pulse transformers; blocking oscillators. Display techniques: types of radar indicators; concept of electric and magnetic fields; cathode ray tubes; electromagnetic deflection; synchros and servomechanisms; digital azimuth techniques; video amplifiers; television principles. Laboratory sessions demonstrate the operation of the circuits studied. (Prerequisites: Solid State Devices 44509 and Digital Logic Principles 40402.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Communications Electronics (3 lecture, 1 laboratory) and 3 semester hours in Radar Principles (2 lecture, 1 laboratory) (6/75).

Radar Principles B (40330)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 240 hours (6 weeks).

Dates: December 1970—Present.

Objective: To continue the study of radar principles and circuits begun in Radar Principles A (40329).

Instruction: Pulse modulators; local oscillators; magnetrons; klystrons; amplitrons; transmission lines; wave guides and cavities; switching devices; radar antennas; propagation of microwave energy; radar receivers; MTI circuits (analog and digital). Laboratory sessions are conducted to familiarize students with the operation of the devices. (Prerequisite: Radar Principles A 40329.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Radar Principles (4 lecture, 2 laboratory) (6/75).

RDP Operational Programming (43450)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: December 1972—Present.

Objective: To train engineers and software specialists in the Radar Data Processing portion of the NAS En Route Air Traffic Control operational program.

Instruction: Functional analysis of the Radar Data Processing software portion of the National Airspace System En Route Air Traffic Control operational program. Functions, capabilities, and limitations of the Radar processing and associated monitor subprograms. (Prerequisite: NAS En Route Operational Program for Engineers 43420.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Computer Technology (1 lecture, 1 laboratory) (7/75).

Rho-Theta Monitor Equipment, RTC-2 (40238)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: July 1972—Present.

Objective: To train technicians responsible for the installation, certification, maintenance, and evaluation of the RTC-2 test-monitor-control equipment.

Instruction: Operating principles; comprehensive circuit analysis; techniques of failure diagnosis. The course is equally divided between classroom lectures and laboratory demonstration and performance exercises. (Prerequisite: Rho-Theta Navigation Equipment, RTB-2 40237.)

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (4/75).

Rho-Theta Monitor Equipment, RTC-3 (40221)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 200 hours (5 weeks).

Dates: February 1974—Present.

Objective: To train technicians responsible for the installation, certification, evaluation, and maintenance of the RTC-3 Rho-Theta (TACAN) Monitor.

Instruction: Detailed and comprehensive circuit analysis of the RTC-3 equipment; digital and analog integrated circuits; operating principles; techniques of failure diagnosis. The course is equally divided between classroom lectures and laboratory exercises. (Prerequisites: Digital Logic Principles 40402, Solid State Devices 44509 or 44712, and either Rho-Theta Navigation Equipment, RTB-2 40237 or Rho-Theta Navigation Equipment, GRN-9 40239 or Rho-Theta Navigation Equipment, GRN-9 44207 and 43700 together.)

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Engineering Technology (2 lecture, 2 laboratory) (4/75).

1. Rho-Theta Navigation Equipment, GRN-9 (40239)

2. Rho-Theta Navigation Equipment, GRN-9 (44207)

3. Rho-Theta Navigation Equipment, GRN-9 (43700)

Location: 1. FAA Academy, FAA Aeronautical Center, Oklahoma City, OK
2. (Correspondence).
3. (On-the-job training).

Length: 1. 80 hours (2 weeks).
2. Directed study (approximately 120 hours).
3. On-the-job training (approximately 106 hours).

Dates: 1. July 1973—Present.
2. January 1975—Present.
3. January 1975—Present.

Objective: To train technicians responsible for the installation, certification, maintenance, and evaluation of the GRN-9 beacon and RTA-2 antenna.

Instruction: Operating principles; comprehensive circuit analysis; techniques of failure diagnosis. The course is equally divided between classroom lectures and laboratory demonstration and performance exercises. (Prerequisite: Rho-Theta [TACAN] Principles 40200.) NOTE: The directed study course 44207 and the on-the-job training course 43700 are taken together to provide an alternate way of learning the knowledge and skills presented in the course 40239.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering Technology (1 lecture, 1 laboratory) (4/75). NOTE: If Course 1 is not completed, Courses 2 and 3 must both be completed in order to receive credit.

Rho-Theta Navigation Equipment, RTB-2 (40237)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: July 1972—Present.

Objective: To train technicians responsible for the installation, certification, maintenance, and evaluation of the RTB-2 beacon and RTA-2 antenna.

Instruction: Operating principles; comprehensive circuit analysis; techniques of failure diagnosis. The course is equally divided between classroom lectures and laboratory demonstration and performance exercises. (Prerequisite: Rho-Theta [TACAN] Principles 40200.)

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering Technology (1 lecture, 1 laboratory) (4/75).

Rho-Theta (TACAN) Principles (40200)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 280 hours (7 weeks).

Dates: July 1973—Present.

Objective: To provide the technician with basic principles necessary for successful completion of specific Rho-Theta (TACAN) Navigation Equipment courses.

Instruction: Principles of pulse and microwave circuits as applied to Rho-Theta Navigation Systems. Tuned amplifiers; oscillators; multivibrators; mixers; discriminators and detectors; wave-shaping and sweep circuits; pulse modulation and demodulation; transmission lines; antennas; magnetic amplifiers. One-third of the course is devoted to laboratory instruction. (Prerequisite: Electronic Fundamentals and Engineering Mathematics 44504.)

Credit recommendation: In the lower division baccalaureate/associate degree category or in the

upper division baccalaureate category, 7 semester hours in Pulse and Microwave Electronics (5 lecture, 2 laboratory) (4/75).

Runway Visual Range Equipment, IRA System (40229)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: August 1970—Present.

Objective: To train technicians responsible for the installation, evaluation, maintenance, and certification of the Runway Visual Range, IRA System.

Instruction: Logic circuit boards; time base generator; function generator; background and transmission counters; answer translator, data transmitter, registers, computer selector; and the transmissometer system. Laboratory sessions include fault diagnosis, performance analysis, test procedures, use of the test equipment, and routine checks and adjustments. (Prerequisites: Runway Visual Range Equipment, IRA System 44213, Digital Logic Principles 40402, and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (6/75).

Runway Visual Range Equipment, Type FA-7861 (40213)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: April 1969—Present.

Objective: To train technicians responsible for the installation, evaluation, maintenance, and certification of the RVR, FA-7861 System.

Instruction: Logic circuit boards; background and transmission counters; buffer storage register; coding matrices; indicators and drivers; data transmitter; light setting receiver; the transmissometer system. Half of the course is devoted to laboratory sessions which develop skills in fault diagnosis, performance analysis, test procedures and equipment, and routine checks and adjustments. (Prerequisites: Digital Logic Principles 40402 and Solid State Devices 44509 or 44712.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering Technology (1 lecture, 2 laboratory) (4/75).

SMMC for Engineers (43421)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 80 hours (2 weeks).

Dates: October 1972—Present.

Objective: To train systems engineers responsible for the evaluation of the National Airspace System operation from the System Maintenance Monitor Console.

Instruction: Evaluation of each module of the System Maintenance Monitor Console and of the system operation as related to each module. En route air traffic control center environmental alarms analysis and radar information as displayed on the Random Access Planned Position Indicator (RAPPI). (Recommended prerequisites: IBM 9020 CCC for Engineers 43463, NAS En Route I/O Equipment for Engineers 43412, and NAS En Route Operational Program for Engineers 43420.)

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Computer Technology (7/75).

1. Solid State Devices (44712)
2. Solid State Devices (44509)

Location: (Correspondence).

Length: 1. Prerequisite Validation Examination (PVE 500).
2. Directed study (approximately 160 hours).

Dates: July 1972—Present.

Objective: To provide the technician with basic knowledge of solid state devices necessary for successful completion of specific equipment courses.

Instruction: Basic operation and characteristics of semiconductor diodes, bipolar and field effect transistors, triacs, and thyristors; a qualitative analysis of amplifier circuits; differential amplifiers; switching circuits; multivibrators. (Prerequisite for Course 2: Foundation Mathematics 44502.)

Credit recommendation: Course 1 or 2: In the lower division baccalaureate/associate degree category, 3 semester hours in Solid State Devices (4/75).

Solid State Fundamentals for Electromechanics (40115 or 44107)

Refer to Environmental Support System Concepts (40117).

System Maintenance Monitor Console (43432)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 160 hours (4 weeks).

Dates: April 1973—Present.

Objective: To train technicians responsible for the installation, maintenance, and repair of the System Maintenance Monitor Console.

Instruction: Detailed logic diagrams of the System Maintenance Monitor Console. Laboratory sessions include maintenance problems and procedures. (Prerequisites: Digital Logic Principles 40402 and Solid State Devices 44509.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Technology (1 lecture, 2 laboratory) (6/75).

Test Equipment Console Test Cart (43419)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 240 hours (6 weeks).

Dates: August 1971—Present.

Objective: To provide the technician with basic background needed to operate and maintain the test equipment console test cart.

Instruction: Machine language computer programming and architecture; diagnostic programming and circuitry; magnetic tape transport and controller; logic multiplexer; buffer memories; peripheral controllers. (Prerequisite: Principles of Digital Logic and Data Processing 44411.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Computer Technology (3 lecture, 3 laboratory) (6/75).

VHF Omnirange Equipment (VOR) (40205)

Location: FAA Academy, FAA Aeronautical Center, Oklahoma City, OK.

Length: 120 hours (3 weeks).

Dates: January 1967—Present.

Objective: To train technicians responsible for installation, maintenance, and evaluation of VOR equipment.

Instruction: Detailed analysis of a VOR system, system components, and monitor; phase modulation; navigation geometry; transmitter and receiver principles; antenna radiation patterns. Laboratory instruction includes practice in comprehensive system operation, adjustment, and calibration (Prerequisite: Advanced ILS/VOR Principles 40204.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Communications Electronics (2 lecture, 2 laboratory) (4/75).

Additional information on these courses may be obtained from:

Office on Noncollegiate Sponsored Instruction
New York State Education Department

THE GENERAL ELECTRIC COMPANY

The General Electric Company (GE) is primarily engaged in developing, manufacturing, and marketing a wide variety of products used in the generation, transmission, distribution, control, and utilization of electricity. As a result of corporate research and development, GE has also developed businesses in such areas as communications, plastics, medical systems, aircraft engines, and ship propulsion systems. In 1974, domestic employment was approximately 307,000 persons in 47 GE divisions throughout the country.

GE offers many courses to its employees to help accelerate their professional and managerial career development. Whether the courses are single offerings, or are part of an integrated program of study, they are all designed to help individual employees perform more effectively on current jobs, prepare for new jobs, or gain greater personal satisfaction from their work.

Courses are grouped alphabetically under the title of the program of which they are a part. A brief description of each program precedes the group of courses to explain the purpose and general content of the program.

ADVANCED COURSE IN ENGINEERING

The Advanced Course in Engineering was originally established in 1923 to supply General Electric Company with engineers having sufficient breadth and depth of technical understanding to make basic contributions in the development of new or improved products. The overall objectives of the course are to increase the abilities of the recent technical college graduate to:

- Analyze and evaluate engineering problems as to both their significance and the appropriate economic and technical approach to their solution,
- Apply effectively the advanced principles of physics, mathematics, and engineering technology to the solution of actual engineering problems,
- Present the solutions clearly and concisely in terms of conclusions and recommended action.

The Advanced Course is a 3 1/2-year program consisting of the company-taught A-, B-, and C-Courses and periods of formal academic study on campus. The course material is continuously reviewed, revised, and updated. It includes pertinent basics, state-of-the-art analytical techniques, and topical emphasis relative to changing business needs and products. Graduates of the program may earn the company's Advanced Course certificate.

The A-Course is taught with basic uniformity at the eight General Electric locations at which it is conducted, and the credit recommendation for that course applies to all those locations. The B- and C-Courses treat subject areas that have special applications to the Binghamton, Syracuse, and Utica plants, and the credit recommendations established for those two courses apply only to the Binghamton, Syracuse, and Utica locations.

Source of official student records: Manager, Advanced Course in Engineering, Professional Education Operation, Building 36, Room 515, Schenectady, New York 12345.

A-Course

Location: Aerospace Controls & Electronics Systems Department, Binghamton, NY; Aerospace Electronic Systems Products Department, Utica, NY; Aircraft Engine Group, Evendale, OH; Aircraft Engine Group, Lynn, MA; Armament Systems Products Department, Burlington, VT; Heavy Military Equipment Department, Syracuse, NY; Nuclear Energy Products Division, San Jose, CA; Profes-

sional Education Operation, Schenectady, NY; Reentry and Environmental Systems Division, Valley Forge, PA.

Length: 136 hours (34 weeks); approximately 680 hours are devoted to problem solving outside of class.

Dates: January 1965—Present.

Objective: To develop the ability to solve engineering development and design problems.

Instruction: Engineering analysis (application of mathematical techniques to many technical areas). Vibrational analysis; E&M fields; control theory; probability and random variables; heat transfer; structure analysis. Assigned problems support the classwork, are completed outside of class, and are submitted to the instructor for review.

Credit recommendation: In the graduate degree category, 12 semester hours in Engineering Analysis or Engineering Science (or 4 semester hours in Applied Mathematics) (6/75). NOTE: The course is broadly interdisciplinary in nature and may not be sufficiently specialized for full credit in highly specialized degree programs.

B-Course

Location: Aerospace Controls & Electronics Systems Department, Binghamton, NY; Aerospace Electronics Systems Products Department, Utica, NY; Heavy Military Equipment Department, Syracuse, NY.

Length: 64 hours (16 weeks); approximately 320 hours are devoted to problem solving outside of class.

Dates: January 1970—December 1974.

Objective: To teach classical communications theory with emphasis on current engineering problems.

Instruction: Amplitude; frequency and digital modulation schemes; information theory; hypothesis testing; parametric estimation; Kalman filtering; radar design. Assigned problems support the classwork, are completed outside of class, and are submitted to the instructor for review.

Credit recommendation: In the graduate degree category, 6 semester hours in Communications Theory and Systems (6/75).

C-Course

Location: Aerospace Controls & Electronics Systems Department, Binghamton, NY; Aerospace Electronic Systems Products Department, Utica, NY; Heavy Military Equipment Department, Syracuse, NY.

Length: 128 hours (32 weeks); approximately 480 hours are devoted to problem solving outside of class.

Dates: January 1970—December 1974.

Objective: To teach classical control theory, digital controls, optimal control, and computer applications and systems.

Instruction: Classical controls; optimal control; digital signal processing; linear programming; dynamic programming; numerical methods; calculus of variations; integral equations; Markov processes; queuing theory; digital design; microprocessors; computer systems. Assigned problems support the classwork, are completed outside of class, and are submitted to the instructor for review.

Credit recommendation: In the graduate degree category, 12 semester hours in Electrical Engineering (or 10 semester hours in Computer Science) (6/75).

ADVANCED MANUFACTURING STUDIES PROGRAM

The courses listed below are part of the Advanced Manufacturing Studies Program. The courses are offered to General Electric employees wishing to add to or reinforce their knowledge of the field of manufacturing. They cover such topics as mathematics, manufacturing management, and computers.

While credit recommendations have been made for each unit separately, particular consideration for granting credit should be given to those who have completed the total program.

Please note that the credit recommendations apply to *all* locations where the program is conducted.

Source of official student records: Advanced Manufacturing Studies representative in the plant where the courses were completed.

Advanced Methods and Models (AMS 152)

Refer to Mathematical Methods and Models.

Basic Mathematics (AMS 151)

Refer to Mathematical Methods and Models.

Cases in Manufacturing Management (AMS 303)

Location: General Electric plants: Greenville, SC; Hudson Falls, NY; Schenectady, NY; Wilmington, NC.

Length: 20 hours (10 weeks).

Dates: January 1965—Present.

Objective: To introduce the student to the various problems resulting from the interaction of manufacturing management with the other functional areas of the firm.

Instruction: A case study approach is used to deal with manufacturing and business management problems. Discussion of each case to identify the real problem or problems and the important considerations involved. Each case is an actual situation in which a manufacturing problem is interrelated with one or more of the other key business functions (marketing, engineering, finance, relations). Involves application of concepts covered in Basic Manufacturing Studies courses.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Manufacturing Management (2/75).

Mathematical Methods and Models

1. **Advanced Methods and Models (AMS 152).**
2. **Basic Mathematics (AMS 151).**

Location: General Electric plants: Bethesda, MD; Hendersonville, NC; Schenectady, NY; Syracuse, NY; Wilmington, NC; Worthington, OH.

Length: 1. 18 hours (9 weeks).
2. 16 hours (8 weeks).

Dates: January 1965—Present.

Objective: To provide the student with basic mathematical background and skills needed in creating mathematical models and in simulating systems.

Instruction: Introduction to descriptive statistics; review of high school algebra; introduction to calculus and partial derivatives; elements of matrices; language of set theory; compound interest; simulation; linear programming; multiple regression.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Economics (2/75).

Probabilistic Models (AMS 154)

Location: General Electric plants: Bethesda, MD; Hendersonville, NC; Schenectady, NY; Wilmington, NC; Worthington, OH.

Length: 16 hours (8 weeks).

Dates: January 1965—Present.

Objective: To introduce the student to statistical and probabilistic ideas through Markov and Stochastic processes with application to queuing theory.

Instruction: Basic ideas of probability; binomial and geometric distribution; Markov processes, uniform and normal distribution; Monte Carlo Method, queuing theory, decision models and metamathematics; statistics (means, variances, and correlation coefficients).

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Business Administration or Economics (2/75).

Regression Analysis (AMS 320)

Location: General Electric plants: Bethesda, MD; Schenectady, NY; Wilmington, NC.

Length: 24 hours (12 weeks).

Dates: January 1969—Present.

Objective: To provide the student with applied knowledge of basic regression models.

Instruction: Simple linear regression model; multiple regression models; least squares method of estimating the parameters of the models; interpretation of computer output.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Business Administration or Economics (2/75).

GESIMTEL (Simulation with Teleprocessing) (AMS 311)

Location: General Electric plants: Lynn, MA; Philadelphia, PA; Rockville, MD; Schenectady, NY.

Length: 24 hours (8 weeks).

Dates: January 1973—Present.

Objective: To provide the student with a background in general purpose system simulation and its application methods.

Instruction: A study of computer simulation techniques. The GESIMTEL system; modeling methods; control language; I/O format; debugging; applications to algebraic and probabilistic problems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Business Administration or Computer Science (2/75).

Statistical Inference (AMS 153)

Location: General Electric plants: Bethesda, MD; Hendersonville, NC; Schenectady, NY; Wilmington, NC; Worthington, OH.

Length: 16 hours (8 weeks).

Dates: January 1965 – Present.

Objective: To provide the student with a background in statistical inference for computer applications.

Instruction: Background in statistical inference involving numerical data. Statistical populations; principles of sampling; statistical estimation; quantitative conclusions; statistical decisions.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Business Administration or Mathematics (2/75).

MANAGEMENT PROBLEMS ANALYSIS PROGRAM

The courses listed below constitute the Management Problems Analysis (MPA) Program. It is an 11-month program designed to teach modern quantitative techniques and to effectively apply those methods to the analysis of business problems and to the subsequent decision-making process.

Each student completes all eight modules which make up the program during the course of the 11 months. Each program participant is required to attend classroom instruction, and to write seven reports which describe his or her application of newly learned techniques to specific on-the-job problems. At the end of the program, the student is required to submit a major project, which involves usually another 60 hours of independent study.

Since its inception in 1962, MPA has been offered at 21 GE locations, and since 1973 has been offered at the following nine: Chicago, Illinois; Evendale, Ohio; Fort Wayne, Indiana; Lynn, Massachusetts; Milwaukee, Wisconsin; Philadelphia, Pennsylvania; Pittsfield, Massachusetts; Schenectady, New York; and Valley Forge, Pennsylvania. The credit recommendations listed below apply to all locations where the program has been offered since 1973.

Source of official student records: Manager, Quantitative Management Methods, Corporate Education Services, Building 5-455, Schenectady, New York 12345.

Economic Analysis of Alternatives

Length: 24 hours.

Dates: January 1973 – Present.

Objective: To provide the student with an appreciation of the time value of money and its effect on the decision-making process.

Instruction: The effect of time on the economic analysis of alternatives. Concepts of compound interest; present value analysis and internal rate of return; the effect of taxes and depreciation on cash flows.

Credit recommendation: In the graduate degree category, 1 semester hour in Business Administration or Engineering Management (2/75).

GESIMTEL (Simulation with Teleprocessing)

Length: 24 hours.

Dates: January 1973 – Present.

Objective: To provide the student with practical background in using General Purpose System Simulator (GPSS) and its application in graphical data analysis and statistical inference.

Instruction: Background in GESIMTEL and its applications. The GESIMTEL system; modelling techniques; computer I/O formats; histograms; probability plots; crossplots; applications to manufacturing information systems (marketing, engineering, and finance).

Credit recommendation: In the graduate degree category, 2 semester hours in Business Administration or Engineering Management (2/75).

Introduction to Probability Theory and Descriptive Statistics

Length: 18 hours.

Dates: January 1973—Present.

Objective: To provide the student with basic probabilistic concepts and skills in combinatorial computations and an understanding and skill in using frequency distributions.

Instruction: Basic probability theory (sets, sample space, events, symbolic probabilities, probability computations, probability trees, combinatorial computation); frequency distribution; grouping of individual data; histograms and frequency polygons; calculation of mean, variance, and standard deviation; uniform and normal distribution.

Credit recommendation: In the graduate degree category, 1 semester hour in Business Administration, Economics, or Engineering Management (2/75).

Modelling

Length: 36 hours.

Dates: January 1973—Present.

Objective: To provide the student with a first simulation experience and to equip the student with some basic discrete and continuous probability distributions.

Instruction: Introduction to modelling and use of random numbers; Bernoulli processes; Poisson processes; Bayesian inference. In particular, the binomial, geometric, Pascal, Poisson, exponential, and gamma distributions. Applications to queuing theory, inventory, and man/machine mixture problems.

Credit recommendation: In the graduate degree category, 2 semester hours in Business Administration, Economics, or Engineering Management (2/75).

Operations Research and Applications Training

Length: 45 hours.

Dates: January 1973—Present.

Objective: To familiarize the student with quantitative models useful for decision making and the steps involved in incorporating these into a business strategy.

Instruction: A series of mathematical models and techniques found useful in decision making. Linear programming models; PERT/CPM; forecasting techniques; the learning curve; reliability concepts. Discussion involving the development of skills in planning decision-making strategies and presenting conclusions and recommendations is included.

Credit recommendation: In the graduate degree category, 3 semester hours in Business Administration or Engineering Management (2/75).

Regression Analysis

Length: 39 hours.

Dates: January 1973—Present.

Objective: To provide the student with applied knowledge of linear statistical models.

Instruction: Applied linear statistical models dealing with simple and multiple regression models and analysis of variance models. Least squares method; simple and multiple Rho-square polynomial regression models; step-wise procedures; multicolinearity; computer application; ANOVA with one- and two-variable models; cross and nested models; various designs of experiment. No calculus background is assumed.

Credit recommendation: In the graduate degree category, 3 semester hours in Business Administration, Economics, or Industrial Engineering (2/75).

Statistical Inference

Length: 30 hours.

Dates: January 1973—Present.

Objective: To provide the student with applied knowledge of various statistical inference methods.

Instruction: Statistical inference methods dealing with estimation of mean, difference between two means, variance, ratio of variances (hypothesis testing and confidence interval methods); Goodness of Fit test; graphical data analysis.

Credit recommendation: In the graduate degree category, 2 semester hours in Business Administration, Economics, or Engineering Management (2/75).

Time-Sharing System and Applications

Length: 18 hours.

Dates: January 1973—Present.

Objective: To provide the student with background in BASIC programming techniques and their applications to management problem analysis programs.

Instruction: Background in time-sharing systems and applications Flowcharting; BASIC language

coding; editing; debugging; file organization subroutine; GE Mark III time-sharing system principles and operations; statistical analysis program packages. Hands-on applications, problem solving, and project design are emphasized.

Credit recommendation: In the graduate degree category, 1 semester hour in Business Administration, Computer Science, or Engineering Management (2/75).

MANUFACTURING STUDIES PROGRAM

The courses listed below are part of a 2-year integrated curriculum called the Manufacturing Studies Program. Each course meets for 2 hours per week after working hours. Two courses are taken concurrently from September to June. The program is conducted at approximately 60 GE plants throughout the United States, including the following locations in New York State: Auburn, Hudson Falls, Schenectady, Syracuse, and Utica. The administrative headquarters for the program is located at the Schenectady plant.

The general objective of the program is to provide an opportunity for individuals capable of college-level work to further develop knowledge and technical abilities applicable in such fields as manufacturing supervision, materials management, manufacturing engineering, quality control, information systems, and employee relations. The program is designed for engineers, specialists, supervisors, and managers.

Because of the modular structure of the curriculum, the courses have been grouped together in order to establish appropriate credit recommendations. While credit recommendations have been made for each separate group of courses, when awarding credit particular consideration should be given to those who have completed the total program.

Please note that the credit recommendations listed below apply to all GE locations where the program is offered.

Source of official student records: Manufacturing Studies representative in the plant where the courses were completed.

Computer Programming and Data Analysis (Unit I)

1. **Data Analysis and Probability Evaluation (MFG 220).**
2. **Introduction to Computers (MFG 111 or 111B).**
3. **Manufacturing Information Systems (MFG 211).**

Location: General Electric plants: Auburn, Hudson Falls, Schenectady, Syracuse, and Utica, NY; locations throughout the United States.

Length: 1. 24 hours (12 weeks).
2. 20 hours (10 weeks).
3. 20 hours (10 weeks).

Dates: September 1965—Present.

Objective: To provide an introduction to basic concepts in computer programming and statistical analysis.

Instruction: Characteristics and limitations of computers; use of FORTRAN and BASIC programming language in solving problems; introductory statistical concepts (measures of central tendency and variability, statistical inference, discrete sampling distributions, and correlations analysis).

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer Programming and Data Analysis (2/74).

Data Analysis and Probability Evaluation (MFG 220)

Refer to Computer Programming and Data Analysis (Unit I).

Economic Analysis of Alternatives (MFG 130)

Refer to Managerial Accounting and Cost Analysis (Unit III).

Employee Relations in Manufacturing (MFG 105)

Refer to Personnel Administration (Unit V).

Individual and Group Relations on the Job (MFG 102)

Refer to Personnel Administration (Unit V).

Industrial Engineering (Unit II)

1. **Manufacturing Materials and Processes (MFG 108)**
2. **Product Engineering (MFG 250)**

Location: General Electric plants: Auburn, Hudson Falls, Schenectady, Syracuse, and Utica, NY; locations throughout the United States.

Length: 1. 24 hours (12 weeks).
2. 10 hours (5 weeks).

Dates: September 1965—Present.

Objective: To provide the student with knowledge of manufacturing processes and the product engineering function.

Instruction: Study of manufacturing processes and the product engineering function. Introduction to productivity and total design; casting processes; basic machinery and metal forming processes; metal joining processes; use of excellent problems treating these topics. Brief treatment of the type of work involved in designing a product and the impact of the design phase on the manufacturing function, engineering data base, and product documentation.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Industrial Engineering (2/74).

Introduction to Accounting Principles (MFG 25)

Refer to Managerial Accounting and Cost Analysis (Unit III).

Introduction to Computers (MFG 111 or 111B)

Refer to Computer Programming and Data Analysis (Unit I).

Managerial Accounting and Cost Analysis (Unit III)

1. **Economic Analysis of Alternatives (MFG 130).**
2. **Introduction to Accounting Principles (MFG 25).**
3. **Operating Costs, Budgets, and Measurements (MFG 125).**

Location: General Electric plants: Auburn, Hudson Falls, Schenectady, Syracuse, and Utica, NY; locations throughout the United States.

Length: 1. 24 hours (12 weeks).
2. 6 hours (3 weeks).
3. 20 hours (10 weeks).

Dates: September 1965—Present.

Objective: To provide an introduction to basic accounting concepts and principles.

Instruction: Basic introduction to accounting concepts and principles with strong emphasis on managerial use of accounting information. Introduction to accounting statements and principles; brief treatment of statement preparation, T-accounts, ledger and journal entries; introduction to cost concepts and analysis, incremental and sunk costs, and budgeting; capital budgeting (discounted case flows, tax considerations, and alternative equipment replacement policies).

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Managerial Accounting and Cost Analysis (2/74).

Manufacturing Engineering (MFG 204)

Refer to Manufacturing Management (Unit IV).

Manufacturing Information Systems (MFG 211)

Refer to Computer Programming and Data Analysis (Unit I).

Manufacturing Management (Unit IV)

1. **Manufacturing Engineering (MFG 204).**
2. **Materials Management (MFG 215).**
3. **Quality Control (MFG 217).**

Location: General Electric plants: Auburn, Hudson Falls, Schenectady, Syracuse, and Utica, NY; locations throughout the United States.

Length: 1. 24 hours (12 weeks).
2. 24 hours (12 weeks).
3. 24 hours (12 weeks).

Dates: September 1965—Present.

Objective: To provide an introduction to manufacturing management.

Instruction: Introduction to management problems in designing and controlling production systems; methods for designing a production process (preparation of plant layouts, job designs, production standards, and assembly line balances); study of the problems of planning and controlling production (forecasting demand, inventory control, production scheduling, and purchasing and traffic management); procedures for organizing the quality control function in manufacturing and the statistical control of product quality variables.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Manufacturing Management (2/74).

Manufacturing Materials and Processes (MFG 108)

Refer to Industrial Engineering (Unit II).

Manufacturing Organization and Supervision (MFG 101)

Refer to Personnel Administration (Unit V).

Materials Management (MFG 215)

Refer to Manufacturing Management (Unit IV).

Operating Costs, Budgets, and Measurements (MFG 125)

Refer to Managerial Accounting and Cost Analysis (Unit III).

Personnel Administration (Unit V)

1. **Employee Relations in Manufacturing (MFG 105).**
2. **Individual and Group Relations on the Job (MFG 102).**
3. **Manufacturing Organization and Supervision (MFG 101).**

Location: General Electric plants; Auburn, Hudson Falls, Schenectady, Syracuse, and Utica, NY; locations throughout the United States.

Length: 1. 16 hours (8 weeks).
2. 24 hours (12 weeks).
3. 16 hours (8 weeks).

Dates: September 1965—Present.

Objective: To provide knowledge of the organization and management of a firm.

Instruction: General approach to the organization and management of a firm; special emphasis on the engineering-type organization and the interpersonal relationships which exist and operate in such an institution; specific aspects of the personnel function; general areas of motivation, organization behavior, and manpower planning.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Personnel Administration (2/74).

Product Engineering (MFG 250)

Refer to Industrial Engineering (Unit II).

Quality Control (MFG 217)

Refer to Manufacturing Management (Unit IV).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

GENERAL MOTORS CORPORATION

General Motors (GM) manufactures and markets automotive products through a network of independently owned retail dealerships that covers the United States and Canada. The Corporation employs approximately 651,000 people.

The General Motors Education and Training Department offers management, technical, and special courses on a corporation-wide basis and for individual units of the corporation and their dealerships. Management courses are sponsored for plant and divisional management, as well as for sales and dealership management. Engineering/technical courses are conducted for plant and divisional personnel. Various other specialized educational programs are offered to qualified GM employees.

The management courses are conducted at the GM Education and Training Department, in Flint, Michigan, and in nine field centers: Atlanta Buffalo, Dayton, Detroit, Fort Worth, Indianapolis, New Jersey, Philadelphia, and San Francisco. Occasionally, the courses are conducted at locations other than those listed. The engineering/technical courses are conducted in Flint, Michigan, and at plant locations throughout the corporation.

Source of official records: Director, General Motors Education and Training Department, 1700 W. Third Avenue, Flint, Michigan 48502.

Basic Management for First-Line Supervisors—Engineering/Technical (0004)

Location: General Motors, Flint, MI; nine field centers.

Length: 40 hours (5 days); 6 hours of preparatory study.

Dates: September 1974—Present.

Objective: To examine and develop fundamental skills in technical staff supervision.

Instruction: Covers basic financial management (return on investment), human behavior as it relates to small-group performance, communication in conflict resolution, and the supervision of technical staff. Methodology includes participant involvement in a series of management simulation exercises related to the work environment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Basic Management for First-Line Supervisors in Manufacturing (0003)

Location: General Motors, Flint, MI; nine field centers.

Length: 40 hours (5 days); 6 hours of preparatory independent study.

Dates: September 1974—Present.

Objective: To examine and develop fundamental skills in plant supervision.

Instruction: Covers basic financial management (manufacturing costs), human behavior as it relates to job performance, communication in conflict resolution, and application of performance analysis concepts. Methodology includes participant involvement in a series of management simulation exercises related to the work environment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Basic Management for First-Line Supervisors of Salaried Employees (0005)

Location: General Motors, Flint, MI; nine field centers.

Length: 40 hours (5 days); 6 hours of preparatory independent study.

Dates: November 1974—Present.

Objective: To examine and develop fundamental skills in office supervision.

Instruction: Covers basic financial management (return on investment), human behavior as it relates to job performance, communication in conflict resolution, and employee performance management (including management by objectives). Methodology includes participant involvement in a series of management simulation exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (4/75).

Computer Process Control (0221) (Process Computer Application)

Location: General Motors, Flint, MI.

Length: 48 hours (5 days); residential.

Dates: May 1971—Present.

Objective: To provide knowledge and experience in the application of minicomputers to machines and industrial processes.

Instruction: Considers process computer concepts including data acquisition, control computations, and output actuation for real-time systems. Understanding of input/output devices, software program implementation, and detailed considerations for the computerized control of small manufacturing processes. Emphasis on practical, hands-on experience.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering or Engineering Technology (6/75).

Critical Path Planning (0292)

Location: General Motors, Flint, MI; plant locations.

Length: 40 hours (5 days); residential.

Dates: October 1968—Present.

Objective: To acquaint students with the use of critical-path planning methods in the analysis of typical industrial situations.

Instruction: The course introduces and demonstrates the use of CPM in several industrial problems. Topics covered are network diagramming, time compression methods, Gantt charting, use of computer algorithms, and PERT. Methodology includes lectures and problem sessions.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering, Engineering Technology, or Management (6/75).

Dealership Management Development (0147)

Location: General Motors, Flint, MI.

Length: 160 hours (4 weeks).

Dates: August 1973—Present.

Objective: To provide prospective dealers with the knowledge and skills of dealership organization, functions, and management requirements.

Instruction: Covers the personnel, financial, and physical plant requirements of automotive dealerships and their relationship to finance companies, customers, employees, and the community. Methodology includes team teaching, participant role plays, computerized dealership simulation, and video taping with critique.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Management (4/75).

Engineering Economy Analysis of Plant Projects (0293)

Location: General Motors, Flint, MI; plant locations.

Length: 80 hours (10 days); residential.

Dates: February 1966—Present.

Objective: To present methods of, and develop expertise in, evaluating the economic aspects of engineering decisions.

Instruction: The course treats the development of evaluation and decision criteria for an engineering approach to economic evaluation. Includes depreciation practices, alternative comparisons, economic life studies, tax implications, retirement and replacement studies, structuring for economic improvement, and case study examples.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering or Engineering Technology (6/75).

Financial Management for Sales Managers (OX103)

Refer to Fundamentals of Management for Sales Managers (OX101).

Financial Management for Service Managers (OX113)

Refer to Fundamentals of Management for Service Managers (OX111).

1. **Fundamentals of Management for Sales Managers (OX101)**
2. **Personnel Management for Sales Managers (OX102)**
3. **Financial Management for Sales Managers (OX103)**

Location: General Motors, Flint, MI; nine field centers.

Length: 108 hours (13-1/2 days); 26 hours of preparatory independent study.

Dates: February 1974—Present.

Objective: To provide sales managers with the knowledge and skills required to perform essential managerial functions in dealership settings.

Instruction: Covers the establishment of specific departmental objectives, recognition of significant forces in the dealership environment that affect planning and operations, initiation and operations of management control systems, personnel management, dealer financial statements.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Automotive Technology or Management (4/75).

1. **Fundamentals of Management for Service Managers (OX111)**
2. **Personnel Management for Service Managers (OX112)**
3. **Financial Management for Service Managers (OX113)**

Location: General Motors, Flint, MI; nine field centers.

Length: 108 hours (13-1/2 days); 26 hours of preparatory independent study.

Dates: February 1974—Present.

Objective: To provide service managers with the knowledge and skills required to perform essential managerial functions in dealership settings.

Instruction: Covers the establishment of specific departmental objectives, identification and establishment of management control systems; initiation and operation of an effective merchandising effort; personnel management.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Automotive Technology or Management (4/75).

General Motors Field Management Development Program (0161)

Location: General Motors, Flint, MI; selected General Motors divisions and dealerships.

Length: 1,040 hours (26 weeks); 13 weeks of classroom instruction and a 13-week internship.

Dates: January 1972—Present.

Objective: To provide participants with an in-depth understanding of the marketing and sales functions of franchise retail organizations that have single-source suppliers.

Instruction: The course includes two separate curricula with some material common to both. One curriculum prepares people to be District Sales Managers; the other prepares people to be District Service/Parts Managers. All participants are together for segments of the program and are taught the same subject matter. In other segments each group concentrates on its specialty.

The general management section (for all participants) covers business management, service and sales agreements, dealership simulation, and integration of manufacturer-dealer relationship. The retail merchandising section (exclusively for district managers) includes product information, distribution, marketing, advertising and merchandising, and customer service. The automotive technology section (exclusively for parts and service managers) covers automotive basics, automotive electronics, air-conditioning, and parts and accessories. The internships for both include an orientation to home and allied factories. For retail merchandising interns there is a classroom orientation, and the participant works in franchise retail operations at a manufacturing field office, specializing in management and sales departments. The automotive technology internship includes a classroom orientation; the participant works in franchise retail operations at a manufacturing field office, specializing in parts and service departments.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in General Management, 5 semester hours in Retail Merchandising, and 5 semester hours in Automotive Technology; for district managers, 3 additional semester hours of internship in Retail Merchandising; for parts and service managers, 3 additional semester hours of internship in Automotive Technology (4/75).

Human Performance (0272) (Introduction to Human Performance)

Location: General Motors, Flint, MI.

Length: 40 hours (5 days); residential.

Dates: November 1972—Present.

Objective: To present the psychological and physical attributes of people concerned with system design and performance evaluation.

Instruction: Introduction to various human attributes as they relate to the industrial setting. Topics include human information processing and coding, vision and light, hearing and noise, motivational aspects of work, anthropometry, fatigue, job enrichment, and accident characteristics. Lectures and discussions are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Engineering or Management (6/75).

Intermediate Management for General Supervisors in Manufacturing (0010)

Location: General Motors, Flint, MI; nine field centers.

Length: 42 hours (5 days); 6 hours of preparatory independent study.

Dates: December 1974—Present.

Objective: To provide second-level supervisors with the knowledge and skills necessary to manage foremen in plant operations.

Instruction: Covers analysis and improvement of human performance, relating managerial behavior to employee performance, and use of the problem-solving process. Methodology includes case studies, role play, and personal assessment using video replay.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management or Organizational Behavior (4/75).

Intermediate Management for General Supervisors of Salaried Employees (0011)

Location: General Motors, Flint, MI; nine field centers.

Length: 42 hours (5 days); 6 hours of preparatory independent study.

Dates: December 1974—Present.

Objective: To provide the second-level supervisor with the knowledge and skills necessary to manage salaried supervisors in nonmanufacturing operations.

Instruction: Covers analysis and improvement of human performance, relating managerial behavior to employee performance, and use of the problem-solving process. Methodology includes case studies, role play, and personal assessment using video replay.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management or Organizational Behavior (4/75).

Introduction to Minicomputers (0223)

Location: General Motors, Flint, MI.

Length: 48 hours (5 days); residential.

Dates: May 1971—Present.

Objective: To provide an introduction to minicomputer hardware and software with the major emphasis on programming.

Instruction: Covers machine organization, specifications and operating characteristics from the user point of view. Topics include assembly-level programming, debugging, flowcharting, and software aids with emphasis on laboratory hands-on experience.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering, Engineering Technology, or Machine Technology (6/75).

Methods Analysis and Basic Time Study (0273)

Location: General Motors, Flint, MI; plant locations.

Length: 76 hours (10 days); residential.

Dates: September 1968—Present.

Objective: To provide people in methods and time study departments with a working knowledge of techniques and methodologies necessary to evaluate and improve industrial operations.

Instruction: Review of the classic procedures necessary to perform both methods analysis and time studies. Topics covered are evaluation of worker motion patterns, activity breakdowns, work flow and process analysis, statistics of time studies, human relations, time study methods, delay allowances, human performance factors, and engineering economy in man/machine systems. Both lectures and laboratory sessions are used along with a manual.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering or Engineering Technology (6/75).

Noise Control (0213)

Location: General Motors, Flint, MI.

Length: 40 hours (5 days); residential.

Dates: November 1964—Present.

Objective: To provide engineers with contemporary knowledge of concepts, techniques of measurement, and interpretation of data related to noise.

Instruction: The course introduces the following concepts: noise and acoustical physics, OSHA and GM noise regulation procedures, hearing physiology and audiometric testing machine and equipment noise abatement specifications, architectural physics, noise measurement and control concepts and methods, and vibration analysis. Lectures, seminars, and laboratory exercises are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Engineering (6/75).

Nondestructive Evaluations (0252)

Location: General Motors, Flint, MI; plant locations.

Length: **Version 1:** 40 hours (5 days); residential.
Version 2: 40 hours (10 weeks).

Dates: January 1970—Present.

Objective: To provide an understanding of the fundamentals of nondestructive evaluation methods to process and design engineers, vendor source inspectors, and reliability and quality control personnel.

Instruction: Study of the nondestructive evaluation methods with emphasis on radiography, ultrasonics, eddy currents, acoustical emission, holography, and stress analysis techniques. Principles of each test method are identified and the advantages and limitations indicated. Laboratory exercises illustrate the fundamental concepts discussed in the classroom and provide an opportunity to work on practical inspection problems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering Technology or Manufacturing Engineering (6/75).

Personnel Management for Sales Managers (OX102)

Refer to Fundamentals of Management for Sales Managers (OX101).

Personnel Management for Service Managers (OX112)

Refer to Fundamentals of Management for Service Managers (OX111).

Plant Layout and Materials Handling (0274)

Location: General Motors, Flint, MI.

Length: 80 hours (2 weeks); residential.

Dates: December 1964—Present.

Objective: To develop a working knowledge of the fundamentals of plant layout and material handling and enable the student to develop an ability to recognize and solve related problems involving planning, design, operation, and control of space and equipment.

Instruction: Introduction to the basic concepts involved in the analysis and solution of plant layout and material handling problems. Graphical layout techniques, travel charting, block area diagramming, and computer simulations are discussed. Workshop projects provide an opportunity to relate the theories to the solution of practical problems. Plant visitations are used to illustrate the principles in practice.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Architectural Science or Engineering (6/75).

Quality Control and Industrial Statistics I (0201) (Introduction to Data Sampling and Analysis)

Location: General Motors, Flint, MI; plant locations.

Length: 80 hours (2 weeks); residential.

Dates: January 1974—Present.

Objective: To introduce the student to methods of sampling in the manufacturing environment so as to gather, reduce, and evaluate data for quality control purposes.

Instruction: Topics include: introduction to probability and probability density functions, histogram construction, mean and variance estimation, use of control and defect charts, performing process capability studies, and use of ACQ and ACQL sampling methods. Lectures and problem sessions are held.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Engineering or Engineering Technology (6/75).

Quality Control and Industrial Statistics II (0202)
(Introduction to Industrial Statistics)

Location: General Motors, Flint, MI; plant locations.

Length: 80 hours (10 days); residential.

Dates: May 1972—Present.

Objective: To introduce the student to basic statistical concepts necessary for analysis of quality and/or engineering problems.

Instruction: Topics treated are empirical distributions, hypothesis testing, point and interval estimating, analysis of variance, simple and multiple regression models, design of experiments, and optimal sampling techniques. Both lectures and problem sessions are held frequently.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Engineering or Engineering Technology (6/75).

Reliability Engineering (0205)

Location: General Motors, Flint, MI; plant locations.

Length: 40 hours (5 days); residential.

Dates: April 1972—Present.

Objective: To explore the concepts of reliability focusing on the prediction and analysis of product failures through use of methods of probability.

Instruction: Reliability analysis is surveyed, including a review of probability, distribution functions, and the three areas of reliability. Techniques are developed for life test design, evaluation, and reliability prediction using the Weibull and other distributions. Includes applications and examples.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Engineering or Engineering Technology (6/75).

Spot and Projection Welding (0237)
(Resistance Welding)

Location: General Motors, Flint, MI; plant locations.

Length: **Version 1:** 40 hours (5 days); residential.
Version 2: 40 hours (10 weeks).

Dates: October 1969—Present.

Objective: To provide an understanding of the fundamentals of resistance welding processes to welding supervisors, welder repairmen, process engineers, and quality control personnel.

Instruction: Study of resistance welding processes with considerable emphasis on spot and projection applications. Includes treatment of material properties, weld quality considerations, welding fixtures, production schedules, and safety requirements. Laboratory exercises augment classroom discussions and provide an opportunity to solve practical manufacturing problems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Engineering Technology or Manufacturing Engineering (6/75).

Additional information on these courses may be obtained from:

Project on Noncollegiate Sponsored Instruction
American Council on Education

GRUMMAN AEROSPACE CORPORATION

The Grumman Aerospace Corporation, located in Bethpage, on Long Island, New York, is a wholly owned subsidiary of the Grumman Corporation. Grumman Aerospace designs, integrates, and produces major systems for both the military and space markets.

The Training and Development Department conducts a broad range of skills training, systems training, and professional and management development courses for Grumman employees on Long Island and at other Grumman responsibility centers.

Source of official student records: Director, Grumman Aerospace Training Center, Bethpage, New York 11714.

Communication and Motivation (EE 01239)

Location: Grumman Training Facilities: Bethpage and Calverton, NY.

Length: 36 hours (13 weeks).

Dates: January 1970—Present.

Objective: To provide the student with behavioral science approaches in the areas of motivation and communication.

Instruction: Behavioral science research and its implications for the management process; the impact of assumptions; achievement motivation; interpersonal communication skill; management styles, both individual and corporate; job enrichment; the process of effective listening.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Behavioral Sciences (7/75).

Fundamentals of Supervisory Management (EE 00099)

Location: Grumman Aerospace Training Center, Bethpage, NY.

Length: 40 hours (16 weeks).

Dates: March 1967—Present.

Objective: To provide the student with a basic introduction to the management process and to develop understanding of the nature of leadership.

Instruction: Introduction to the nature of management; the process of planning, organizing, and controlling; fundamentals of personality and behavior; motivation and communications; handling complaints and grievances; guiding employees and building job satisfaction and morale.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management (7/75).

Management I (EE 01351)

Location: Grumman Training Facilities: Bethpage, Calverton, and Great River, NY.

Length: 48 hours (12 weeks).

Dates: March 1975—Present.

Objective: To improve the effectiveness of practicing first-line supervisors through increased knowledge of management practices and the behavioral sciences and their application on the job.

Instruction: Introduction to supervisory management practices; role of the supervisor, including motivation and performance appraisal; personnel and labor relations; the communication process; the manufacturing system, including quality and material control; budgeting. The works of Maslow, McGregor, and Herzberg are studied and on-the-job applications are planned. Lecture, discussion, case studies, role-play exercises, and small group projects are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Management (7/75).

Management II (EE 01376)

Location: Grumman Training Facilities: Bethpage and Calverton, NY.

Length: 42 hours (10-1/2 weeks).

Dates: April 1975—Present.

Objective: To increase the middle manager's knowledge in the areas of the behavioral sciences, business issues, and functional management in order to improve managerial performance.

Instruction: The manager's job; management of time; personnel and labor relations; planning and goal setting; theories of human effectiveness; management of manpower and material. Case studies and group exercises are used to develop a model of effective managerial performance.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management (7/75).

Senior Management Development Program (EE 01252)

Location: DeServersky Conference Center, Old Westbury, NY.

Length: 100 hours (12-1/2 weeks).

Dates: April 1975—Present.

Objective: To increase the knowledge and competence of senior-level managers in human resource development and utilization, business policy, and the management process.

Instruction: The behavioral sciences and their effect on the management process; human resource utilization; business and social issues as they impact on industry and business policy; functional management; management information systems; manufacturing management. Emphasis is on the use of detailed case study analyses.

Credit recommendation: In the graduate degree category, 3 semester hours in Behavioral Science and 3 semester hours in Management Process (7/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

LIFE OFFICE MANAGEMENT ASSOCIATION

The Life Office Management Association (LOMA) is a trade, research, and educational association of life insurance companies operating in the United States, Canada, and a number of other countries. The Education and Training Division sponsors a variety of programs designed for career development in the life industry. Schools, seminars, and correspondence and independent study courses are conducted in management development, instruction and training, systems training, and communications.

Source of official student records: Registrar, Education and Training Division, Life Office Management Association, 100 Park Avenue, New York, New York 10017.

FELLOW, LIFE MANAGEMENT INSTITUTE INSURANCE EDUCATION PROGRAM

The Fellow, Life Management Institute (FLMI) Insurance Education Program is intended primarily for home office and branch office employees of LOMA members; currently enrolls more than 50,000 students a year.

The FLMI Program includes the study of life insurance, operations of life insurance companies, and management principles. To complete the Program, a student must pass eight examinations (Parts). Seven of these Parts are required; for the eighth Part, a student may elect from 10 specialized fields. The student who successfully completes seven 3-hour examinations plus the 6-hour speciality examination of his or her choice (including a section of management principles) is designated a Fellow of the Life Management Institute. A student may take additional speciality examinations. The examinations for all Parts are administered under secure conditions throughout the United States and Canada and in many locations overseas.

Classroom instruction is not a major component of the FLMI Program; rather the system is designed to assess achievement through rigorous examinations. Students prepare for the examinations by independent study, through application of acquired experience, or in some cases through classroom instruction.

Careful attention is paid by LOMA to program development; both course content and examinations are constantly reviewed to remain in line with current trends in the field. Although standard textbooks are used when appropriate, many of the assigned textbooks and instructional materials have been developed specifically for use in the Program.

Administrative Management

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide managers with an awareness of the human aspects of control and information systems.

Instruction: Management control; management information systems (systems concepts, decision-making concepts, and the value of information); organizational development; technology; human aspects of control.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category (introductory), 3 semester hours in Information Systems or Management Control (11/74).

Economics and Investments

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with a foundation in economic principles and general investment practices.

Instruction: The nature and scope of economics; the economic process; free enterprise economic systems; money and credit; the level of economic activity; income-expenditure analysis; monetary and fiscal policies; international economics; investment goals; types of securities and securities markets.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Economics or Finance (1/75).

Electronic Data Processing

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with an introduction to the technology of data processing and its applications.

Instruction: Fundamentals of computer systems and programming; data communications; trends in EDP technology; organization of EDP activities; computer applications in the life insurance business. Skill in a particular programming language is not developed.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Data Processing (11/74).

Group Insurance

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with an understanding of the development, technical aspects, and administration of group life and health insurance coverages.

Instruction: Group life insurance plans; group health insurance plans; insurance organizations; eligible groups; group insurance administration (marketing, premiums, legal provisions, underwriting, and claims); self-insurance.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Industrial Relations or Life and Health Insurance (1/75).

Introduction to Management Theory

Location: (Correspondence).

Length: Independent study.

Dates: January 1973—Present.

Objective: To provide an introduction to general management that covers underlying behavioral concepts, research on organizations, and a survey of management science techniques.

Instruction: The evolution of the concept of management; the classical, behavioral, and management science approaches to management; management functions (planning, organizing, and controlling); motivation, leadership, and work groups; contemporary management developments; quantitative methods.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in General Management (11/74).

Legal Aspects of Life Insurance

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To acquaint the student with the legal environment in which a life insurance company operates, taking into account those factors affecting the company's product (contract law and product law) and the company's operation (agency law and corporate law).

Instruction: Sources of law; elements of life insurance contracts; the policy; the policyowner's rights and obligations; the beneficiary; validity of the contract; legal remedies; group life insurance; health insurance contracts.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Law or Life Insurance (1/75).

Life and Health Insurance Claims

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To familiarize the student with the medical, legal, and organizational aspects of claims administration.

Instruction: Medical aspects of claims (medical terminology, anatomy, and physiology); physical and mental disorders; claims administration (organization of the claims department, life insurance claims, health and accident insurance claims, disability claims, government insurance programs, and Canadian claims practices).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Claims Administration or Secretarial Science (Medical) (1/75).

Life Company Operations

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To inform the student of the various functions performed within a life insurance company and its organizational structure.

Instruction: The relationship of the life insurance industry to the economies of the United States and Canada; types of life insurers (stock, mutual, fraternal societies, savings banks); the administrative, actuarial, marketing, underwriting, policyowner service, legal, investment, and accounting functions; the future of life insurance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Life Insurance (1/75).

Life Insurance Accounting (Part 4)

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with a background in basic life insurance accounting principles; to explain the types of transactions and entries encountered in insurance accounting.

Instruction: Fundamentals of accounting; commercial versus insurance accounting; premium and commission accounting; policy benefit settlements; expenses and taxes; accounting for investments; composition of the annual statement.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting or Life Insurance (1/75).

Life Insurance Accounting (Part 8)

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To present an advanced study of accounting concepts and techniques for management planning and control of life insurance companies.

Instruction: A review of basic accounting concepts; analysis of financial statements; accounting for assets; accounting for liabilities; accounting for capital and retained earnings; internal auditing in life companies; functional costs in life companies.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Accounting or Life Insurance (1/75).

Life Insurance Investments

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with an understanding of the policies and practices of investment management of financial institutions in varying economic environments.

Instruction: History and investment practices of financial institutions; investment risk factors; types of investments (securities, mortgage loans); valuation of assets; financial analysis.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Banking, Finance, or Insurance (1/75).

Management Science

Location: (Correspondence).

Length: Independent study.

Dates: January 1973—Present.

Objective: To provide the student with a survey of the scientific approach to solving problems in management, emphasizing the use of mathematical descriptions or models for planning, decision, and control purposes.

Instruction: Goal setting, modeling, and implementation; decision theory; planning models; control; supportive information systems.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category (introductory), 3 semester hours in Management Science (11/74).

Mathematics of Life Insurance

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To introduce the student to the use of mathematical and financial relationships applied by actuaries in determining life insurance premiums, dividends, policy values, and reserves.

Instruction: Review of arithmetic and algebra; simple and compound interest; accumulated value and present value; annuities certain; life annuities; mortality tables; life insurance premiums; net level premium reserves; modified reserves; nonforfeiture values; policy dividends.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Finance, Life Insurance, or Mathematics (1/75).

Office Administration

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with a survey of the tools and techniques of effective office management, with emphasis on the considerations involved in life insurance agency administration.

Instruction: Office administration. Organization; systems and procedures; information processing; nomenclature of life insurance; agency costs and their control; performance standards and control.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Office Administration (11/74).

Pension Planning

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To present the student with a survey of pensions, profit sharing, and deferred compensation plans and their administration.

Instruction: History of private pension plans; basic features of a pension plan; types of plans; funding considerations; cost considerations; tax considerations; pension administration; inflation and pension planning; annuities and mutual funds.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Employee Benefits, Industrial Relations, or Life Insurance (1/75).

Personnel Administration

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide knowledge concerning the integration of personnel into the organization in a manner that will meet the needs of both the individual and the organization.

Instruction: Personnel management functions. Recruitment (tests and interviews, job analysis, and manpower planning); development (training, appraisal, and advancement); compensation; integration (communication and conflict); safety and health.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Personnel Administration (11/74).

Principles of Life Insurance

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To acquaint the student with the nature of life insurance, the available plans and policies, the process of becoming insured, and the basic rights and obligations of the policyowner and the life insurance company.

Instruction: Survey of the principles of life insurance. Insurable risk; basic life insurance plans; premiums and reserves; the life insurance policy and its provisions; special policies and added benefits; industrial (debit) life insurance; group life insurance; health insurance (individual and group); annuities and retirement plans.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Life Insurance (1/75).

Selection of Risks

Location: (Correspondence).

Length: Independent study.

Dates: January 1965—Present.

Objective: To provide the student with a detailed understanding of the underwriting function of life insurance companies, the management of the underwriting department, and its relationship with other departments.

Instruction: The underwriting function; physical impairments; nonphysical impairments; financial underwriting; reinsurance.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Life and Health Insurance or Secretarial Science (Medical) (1/75).

Additional information on these courses may be obtained from:

Office on Noncollegiate Sponsored Instruction
New York State Education Department

LITERACY VOLUNTEERS OF AMERICA, INC.

The Literacy Volunteers of America is a voluntary organization whose goal is to reduce the number of adult and teenage functional illiterates through an individual tutoring program. The organization was started in Syracuse, New York in 1962 and now operates in seven states. The New York State member organization has 24 local affiliates with approximately 1,700 volunteer tutors.

The Teacher Training/Tutorial Experience was developed by experts in the area of adult reading problems over a period of 10 years. It is designed to prepare the volunteer to teach basic reading successfully to functional illiterates on a one-to-one basis using several techniques.

Please note that the credit recommendation listed below applies *only* to the locations where the program is offered in New York State.

Source of official student records: Coordinator, Literacy Volunteers of New York State, 131 Sherrill Road, Sherrill, New York 13461.

Teacher Training/Tutorial Experience

Location: Affiliates in New York State: Albany, Broome County, Buffalo, Cayuga County, Clinton County, Cortland, Geneva, Glens Falls, Jamestown, Lockport, Mt. Vernon, Nassau, New York City, Niagara Falls, Northern Westchester, Olean, Oneida, Oswego County, Rochester, St. Lawrence County, Schenectady, Syracuse, Troy, and Watertown.

Length: 48 hours (15 weeks); 3 weeks classroom instruction and 12 weeks supervised tutorial experience.

Dates: July 1974—Present.

Objective: To train volunteers to teach basic reading and writing skills to adult illiterates on a one-to-one basis.

Instruction: History and organization of Literacy Volunteers of America; problem and scope of illiteracy among adults; techniques of teaching basic reading and writing; sensitivity to the environment of the functional illiterate; positive reinforcement; instructional materials; supportive agencies for referral; practical experience in tutoring. Conferences, area meetings, and inservice training are held in new materials, new techniques, and affiliate management.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Reading Instruction (7/74).

Additional information on this course may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

MARINE MIDLAND BANK

Marine Midland Bank services all regions of New York State, with 318 branch offices in 47 counties. It is the sixth largest bank in the State and employs over 10,000 persons.

Marine Midland sponsors a broad range of programs and courses in order to provide management and staff with the opportunity to become more productive in their present jobs and for self-development.

The courses listed below are offered to employees in the Western Region of the Bank to provide them with management theory and the opportunity to question it in terms of its practical application. They have been developed by utilizing the talents of professors from local colleges, as well as the expertise of officers within the bank.

Please note that the credit recommendations apply *only* to the courses as conducted at the Buffalo location.

Source of official student records: Management Development and Staff Training Division, Marine Midland Bank—Western, Marine Midland Center, Buffalo, New York 14203.

Management Techniques

Location: Marine Midland Center, Buffalo, NY.

Length: 68 hours (17 weeks).

Dates: September 1971—Present.

Objective: To introduce personnel with college backgrounds to specific applications of selected management concepts in commercial banking operations.

Instruction: Management concepts applied to commercial bank operations. Marketing research; forecasting; profit planning; money and portfolio management; branch banking; loan and deposit policy; customer contacts; personnel administration. Course includes a computerized commercial bank management simulation game.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Banking and Management (2/75).

Officer Development Program

Location: Marine Midland Center, Buffalo, NY; various local colleges.

Length: 84 hours (8 months).

Dates: September 1972—Present.

Objective: To introduce assistant managers to the problems and processes of management with special reference to banking; to prepare them for increased managerial responsibilities.

Instruction: Introduction to integrative, general management problems and processes. Basic concepts of planning, leadership, communication, motivation, and decision analysis; introduction to functional areas of project management, finance, marketing, and labor relations; introduction to accounting principles. Emphasis is on the functional, day-to-day operating environment of a commercial bank (banking operations, sales and marketing, cost control, community relations, and personnel management). Course material is presented through reading assignments, class discussions, and lecture presentations. The course includes a management simulation experience emphasizing group problem-solving and decision-making behavior and an extensive analysis and report on a real bank management problem.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Integrative General Management and 3 semester hours in Commercial Bank Management or in the graduate degree category, 3 semester hours in General Management (2/75).

Personal Development Program

Location: Marine Midland Center, Buffalo, NY.

Length: 132 hours (44 weeks).

Dates: April 1975—Present.

Objective: To assist personnel in the development of techniques of management and banking skills in preparation for possible assignment into management.

Instruction: A survey of technical and management concepts relating to commercial banking. Marketing research; forecasting and profit planning; money and portfolio management; branch banking; loan and deposit policy; customer contracts; personnel administration; an introduction to accounting principles. Course includes a computerized commercial bank management simulation game.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Banking and Management (2/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NASSAU COUNTY POLICE DEPARTMENT

The Nassau County Police Department serves a population of approximately 1.5 million people in Nassau County, which is located on Long Island immediately adjacent to New York City. The Department employs 4,775 persons, and its headquarters is in Mineola, New York.

RECRUIT TRAINING PROGRAM

The courses listed below constitute the academic component of the Recruit Training Program conducted by the Nassau County Police Department. This is an intensive 16-week program attended by all newly appointed officers of the Department. All courses are taught at the Police Training Center of the Department.

Source of official student records: Commanding Officer, College Education Bureau, Nassau County Police Department, 1490 Franklin Avenue, Mineola, New York 11501.

Community Relations

Length: 45 hours.

Dates: January 1972—Present.

Objective: To present the student with a study of the practical applications of the principles of social science as they relate to the field of police/community relations.

Instruction: A survey of psychological and sociological factors affecting human behavior. Human behavior as manifested by the juvenile offender, the mentally ill, the alcohol and drug abuser, and other normal/abnormal behavior typologies. The course is from the police perspective, growing out of the dynamic relationship known as police/community relations.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Criminal Justice or Criminology (1/75).

Criminal Investigation

Length: 41 hours.

Dates: January 1972—Present.

Objective: To acquaint the student with the basic principles of criminal investigation.

Instruction: An examination of the skills and techniques needed to conduct sound police investigations with emphasis on Supreme Court guidelines. Preliminary investigations; interviews; interrogations; collection and preservation of physical evidence; consideration of criminal activities requiring specialized investigatory procedures.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Criminal Justice (1/75).

Criminal Law and Procedure

Length: 56 hours.

Dates: January 1972—Present.

Objective: To provide the student with an understanding of the basic elements of criminal law and procedure.

Instruction: The United States Constitution; the New York criminal procedure law; penal law; the Family Court Act. Emphasis is on serious crimes (homicide, assault, arson, conspiracy, robbery, and juvenile offenses).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Criminal Justice, Criminology, or Government (1/75).

Introduction to Law Enforcement

Length: 52 hours.

Dates: January 1972—Present.

Objective: To present the student with an introduction to law enforcement and its role within society and the criminal justice system.

Instruction: An examination of the history, philosophy, responsibilities, and objectives of law enforcement considered against a background of the variety, extent, and nature of crime in the United States. Law enforcement ethics; professionalism; conduct and standards for police; police organization; jurisdiction; the role of the correctional system and certain social agencies as they articulate with the police.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Justice (1/75).

Physical Education

Part 1: Foundations of Physical Activity
Part 2: Self-Defense
Part 3: Accident Prevention, First Aid, and Safety Education

Length: 90 hours; each part 30 hours.

Dates: January 1972—Present.

Objective: To prepare the student for the physiological and psychological demands involved in the work of a police officer.

Instruction: Part 1: Instruction and practice in movement skills, body mechanics, and developmental activities to attain a level of physical fitness; methods of maintaining and improving physical fitness. **Part 2:** Theory, skills, and practice of judo, karate, and aikido; boxing and wrestling techniques; fundamentals and principles of those arts; application of those arts to combative situations. **Part 3:** Principles of accident prevention; theory and practice of First Aid procedures to accident victims (shock, wounds, cardio-pulmonary resuscitation, sudden illnesses, emergency childbirth). Recruits receive certification by the American Red Cross and the American Heart Association.

Credit recommendation: Part 1: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Physical Education (1/75). **Part 2:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Physical Education (1/75). **Part 3:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (1/75).

Police Operations

Length: 68 hours; practicum of 82 hours.

Dates: January 1972—Present.

Objective: To acquaint the student with the multidimensional aspects of basic police operations.

Instruction: An examination of patrol duties. The officer's role in handling crimes in progress; field notetaking; missing persons; bombs and bomb threats; crowd and riot control; arrest procedures; other situations faced by the patrol officer. Role playing and a practicum (Supervised Field Training) are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Criminal Justice (3 lecture, 1 Supervised Field Training) (1/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK BOTANICAL GARDEN

The central purpose of the New York Botanical Garden is the study of plants and their importance to the welfare of the planet. Living plant collections are maintained in the Conservatory, and the Herbarium contains a collection of over 4 million dried plants. The Garden's botantical/horticultural library is the largest in the United States and serves the Garden, professionals, and the general public.

The aim of the Garden's Educational Services division is to interest and instruct the general public of the metropolitan New York area in the various aspects of plant life. Through the Continuing Education Program, the Garden offers more than 100 courses each year including botany, horticulture, gardening, landscape design, environmental studies, plant crafts, and related topics.

Within the instructional program, three major programs of study are offered: Botany, Gardening, and Landscape Gardening. In order to complete a program and receive a certificate, students must complete at least seven courses within a prescribed curriculum.

Source of official student records: Registrar, New York Botantical Garden, Bronx, New York 10458.

Basic Botany

Refer to General Botany.

Cryptogamic Botany

Refer to Plant Morphology and Taxonomy.

Evolutionary Biology

Refer to Genetics and Evolution.

Field Botany

1. **Field Botany (Cryptogams)**
2. **Local Flora in Spring (Phanerogams)**
3. **Natural Vegetation (Ecology)**

Location: New York Botanical Garden, Bronx, NY.

Length: 1. 12 hours (8 weeks).
2. 12 hours (8 weeks).
3. 12 hours (8 weeks).

Dates: September 1975—Present.

Objective: To provide the student with a study of plants in relation to their environment.

Instruction: Study of the ecosystem and primary production; description and classification of vegetation; vegetation dynamics; environmental gradients and plant distribution; forest types; history of local vegetation. Field trips are conducted to study local vegetation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Ecology or Field Botany (9/75).

Field Botany (Cryptogams)

Refer to Field Botany.

General Botany

1. **Basic Botany**
2. **Plant Form and Function**
3. **Plant Physiology**

Location: New York Botanical Garden, Bronx, NY.

Length: 1. 15 hours (10 weeks).
2. 12 hours (8 weeks).
3. 12 hours (8 weeks).

Dates: September 1975—Present.

Objective: To provide a study of the morphology and physiology of seed plants.

Instruction: Plant anatomy and physiology; genetics; diversity and systematics; nutrition; growth and development.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in General Botany (9/75).

General Genetics

Refer to Genetics and Evolution.

Genetics and Evolution

1. Evolutionary Biology
2. General Genetics
3. Paleobotany

Location: New York Botanical Garden, Bronx, N Y

Length: 1. 12 hours (8 weeks).
2. 12 hours (8 weeks).
3. 12 hours (8 weeks).

Dates: September 1975—Present.

Objective: To provide an introduction to Mendelian and non-Mendelian gene inheritance patterns; to provide a study of the theoretical and factual aspects of the fossil record and evolution, particularly of plants.

Instruction: Mechanisms of evolution; paleoecology; morphological and physiological trends in the fossil record; techniques of paleochemotaxonomy, geochemistry, and computer analysis as applied to historical biology; plant genetics (Mendelian and non-Mendelian).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Genetics and Evolution (9/75).

Home Landscaping and Garden Maintenance

1. Lawns and Grounds Maintenance
2. Plant Pests and Diseases
3. Plants for Landscaping Your Home
4. Vegetable Gardening

Location: New York Botanical Garden, Bronx, NY.

Length: 1. 12 hours (8 weeks).
2. 12 hours (8 weeks).
3. 12 hours (6 weeks).
4. 12 hours (8 weeks).

Dates: September 1975—Present.

Objective: To provide instruction in landscaping the home and maintaining the plant material used.

Instruction: Basic design principles; foundation plantings; use of flowers in the design; planting; pruning; fertilizing; care of the plant material used in the design; insects and plant diseases. Instruction in vegetable gardening is also included.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Home Landscaping (1 lecture, 1 laboratory) (9/75).

Lawns and Grounds Maintenance

Refer to Home Landscaping and Garden Maintenance.

Local Flora in Spring (Phanerogams)

Refer to Field Botany.

Morphology of Flowering Plants

Refer to Plant Morphology and Taxonomy.

Natural Vegetation (Ecology)

Refer to Field Botany.

Paleobotany

Refer to Genetics and Evolution.

Plant Form and Function

Refer to General Botany.

Plant Morphology and Taxonomy

1. Cryptogamic Botany
2. Morphology of Flowering Plants
3. Systematic Botany

Location: New York Botanical Garden, Bronx, NY.

Length: 1. 12 hours (8 weeks).
2. 20 hours (9 weeks).
3. 12 hours (8 weeks).

Dates: September 1975—Present.

Objective: To provide the student with a study of the morphology and taxonomy of flowering plants.

Instruction: Survey of cryptogamic plants; evolutionary significance of plant parts in terms of its application to the classification of flowering plants; structure of flowers; plant identification and classification.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Plant Morphology and Taxonomy (9/75).

Plant Pests and Diseases

Refer to Home Landscaping and Garden Maintenance.

Plant Physiology

Refer to General Botany.

Plants for Landscaping Your Home

Refer to Home Landscaping and Garden Maintenance.

Systematic Botany

Refer to Plant Morphology and Taxonomy.

Vegetable Gardening

Refer to Home Landscaping and Garden Maintenance.

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK CITY DEPARTMENT OF EMPLOYMENT

The Department of Employment (DOE) was created to coordinate the manpower efforts of business, labor, and community organizations to meet the employment needs of New York City. Through 11 Comprehensive Manpower Centers and 26 Neighborhood Manpower Service Centers, unemployed persons are interviewed, counseled, tested, trained, and placed in jobs.

The Office of Staff Development and Training offers a wide range of courses to staff within the Department. The curriculum includes agency orientation, interviewing, supervision, communication skills, job development, organizational development skills, planning skills, case management, testing, and other courses tailored to meet specific requirements. Training is conducted both on site and at the Office's training facility where video tape and other technical aids provide versatility in structuring learning activities.

Source of official student records: Director, Department of Employment, Office of Staff Development and Training, 460 West 42d Street, New York, New York 10036.

Basic Interviewing (B II)

Location: 460 West 42d Street, New York. NY.

Length: 45 hours (15 weeks).

Dates: January 1974—Present.

Objective: To provide the student with a working knowledge of the interview process.

Instruction: Interviewing as a problem-solving skill; climate setting, developing trust, and opening and maintaining communication channels. Skills are developed through the use of films, reading materials, student logs, and video tape and practice interviews.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Counseling, Education, or Social Science (8/75).

Case Management Supervision (D III)

Location: 460 West 42d Street, New York NY.

Length: 45 hours (15 weeks).

Dates: August 1975—Present.

Objective: To train supervisors of case workers in supervisory practices, particularly as related to case supervision.

Instruction: Social and psychological analysis of the role of work in our society and the role of the case supervisor. Intensive application of the supervisory training of counselors utilizing the techniques of role playing, microsupervision, and case conferences. (Prerequisite: Basic Supervision or equivalent supervised experience.)

Credit recommendation: In the graduate degree category, 3 semester hours in Community Psychology, Counseling, Education, Industrial Psychology, or Social Work (8/75).

Descriptive Statistics

Location: 460 West 42d Street, New York, NY.

Length: 45 hours (15 weeks).

Dates: August 1975—Present.

Objective: To provide the student with an introduction to basic concepts of descriptive statistics.

Instruction: Basic measures of central tendency and variability; percentiles; regression; correlation; mathematical terminology and formulas used in basic statistics. The course provides practice in the computation and use of basic statistical indices and in the preparation of graphs and charts.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Statistics (8/75).

Human Relations Laboratory: Personal Development and Group Dynamics (B XVI, EIX)

Location: 460 West 42d Street, New York, NY.

Length: 105 hours (15 weeks).

Dates: September 1973—Present.

Objective: To stimulate and support the personal growth of the student through the development of human relations skills and interpersonal insights.

Instruction: Application of theory and concepts toward the development of human relations skills (understanding the effect of one's behavior, listening and understanding others, giving and receiving feedback, and increasing effectiveness in shared leadership and membership functions) and interpersonal insights (sensitivity to others and self, understanding dynamics of groups). Techniques and resources include role playing, video taping, and a weekly log kept by each student.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Behavioral and Social Sciences (3 theory, 3 laboratory) or in the graduate degree category, 6 semester hours in Counseling Psychology, Educational Psychology, Human Relations, Management Development, Public Administration, Recreation Administration, or Social Work (3 theory, 3 laboratory) (8/75).

Introduction to Basic Employment Assessment (B V)

Location: 460 West 42d Street, New York, NY.

Length: 45 hours (15 weeks).

Dates: September 1973—Present.

Objective: To provide participants with a basic understanding of psychometrics and specifically employment-related testing.

Instruction: Administration and scoring of tests; interpretation of test results; helping clients relate test results to their vocational plans; psychometric terminology; introduction to basic psychometric statistics. Achievement, aptitude, personality, interest, and work-sample methods of evaluation are explored through the experiential method.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Counseling, Education, or Psychology (8/75).

Management Development (D IV)

Location: 460 West 42d Street, New York, NY.

Length: 105 hours (15 weeks).

Dates: September 1973—Present.

Objective: To provide managers, administrators, and supervisors with an understanding of the major functions of management and to develop the skills leading to managerial success.

Instruction: Theory and application of management by objective and results. Goal planning and programming; problem solving; decision making; managerial styles; communication; conflict management; influence; planned change. Emphasis is on group participation in a problem-solving setting. Techniques and resources include role playing, case studies, in-basket exercises, video taping, a notebook of relevant readings, and a weekly log kept by each student.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 6 semester hours in Business and/or Public Administration, Industrial Psychology, Labor Relations, or Social Work (8/75).

Manpower Vocational Counseling Techniques

Location: 460 West 42d Street, New York, NY.

Length: 45 hours (15 weeks).

Dates: August 1975—Present.

Objective: To train vocational counselors, employment interviewers, and related staff members in the use of counseling techniques with particular emphasis on manpower behavioral counseling.

Instruction: Assessment of client's wishes and potential; synthesizing the client's wishes and potential; negotiation of a compromise of this synthesis with the actual possibilities in the worlds of work and training. Emphasis is on vocational planning, career development, working on behavioral objectives, and vocational problem solving. (Prerequisite: Basic Interviewing or 1 year of supervised counseling experience.)

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Industrial Psychology or Vocational Counseling (8/75).

Micro-Interviewing

Location: Harlem Income Maintenance Center 32, 165 East 126th Street, New York, NY.; 460 West 42d Street, New York, NY.; various centers.

Length: 45 hours (15 weeks).

Dates: January 1975—Present.

Objective. To enable intake workers, case managers, and case workers to develop the basic skills needed to conduct various kinds of interviews.

Instruction: In-depth investigation of the interview as the forum for important communication between client and interviewer. By detailed examination of short segments of interviews, the students develop and practice interviewing skills. Students role play short interviews which are video and/or audio taped, receive feedback, and continue or redo the initial role play incorporating the suggestions made by the group. (Prerequisite: Basic Interviewing or 6 months supervised interviewing or counseling experience.)

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Clinical Psychology, Counseling, Education, Social Work, or Sociology (8/75).

New York City Institutions that Affect the Unemployed (B X)

Location: 460 West 42d Street, New York, NY.

Length: 105 hours (15 weeks).

Dates: September 1974—Present.

Objective: To provide a field visit program to enable the student to observe and evaluate the nature of the various institutions that provide service to the poor.

Instruction: Lectures, discussions, and field visits to a variety of legal, health, and educational institutions that serve the clients of the students in the course. After each visit, each student prepares written observations and an evaluation of the delivery and use of the services provided.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Community Mental Health, Social Work, or Sociology (8/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK CITY POLICE DEPARTMENT

The New York City Police Department serves the citizens of the five boroughs of the city. It is the nation's largest police agency, employing approximately 27,000 persons. In addition to a large patrol force, the Department has a wide variety of specialized law enforcement units. Some 2,000 officers have completed college, and 10,000 are currently enrolled in degree programs.

The City Police Academy is responsible for conducting formal training programs within the Department. In addition to its entry-level programs, the Academy develops and conducts inservice courses in organization, management, and such specialized areas as investigation, crime prevention, and security for both its own personnel and those of other criminal justice agencies. The Academy also evaluates and coordinates decentralized training programs and acts as the liaison between the Department and higher education institutions.

STUDENT OFFICER TRAINING PROGRAM

The courses listed below constitute the academic component of the Student Officer Training Program conducted by the New York City Police Academy. This intensive program consists of 22 weeks of classroom instruction, supplemented by a 9-week supervised internship in a precinct. It is attended by all new recruits to the Police Department. The present curriculum is the result of a revision of the previous Recruit Training Program which the Department undertook in October 1973 and which involved outside experts as well as Department personnel. The first class to receive the new curriculum in its entirety graduated from the Academy on June 11, 1974. All of these courses other than the internship are taught at the Academy.

Source of official student records: Records Officer, Police Academy, 235 East 20th Street, New York, New York 10003.

Community Relations for Police

Length: 75 hours.

Dates: January 1974—Present.

Objective: To provide the student with knowledge of his/her role in the community and the expectations of the community he/she serves.

Instruction: Exploration of the etiology, manifestations, and proposed solutions for noncrime-related problems that the police service is called upon to resolve. Discussion of children, adolescents, and the problem of juvenile delinquency; intergroup relations, communications theory, and interviewing; crisis intervention and conflict management; treatment of geographical structures and ethnic communities in New York City.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Criminal Justice, Social Science, or Social Work (8/74).

Criminal Investigation

Length: 60 hours.

Dates: January 1974—Present.

Objective: To provide the student with knowledge of his/her responsibilities as the first police representative at the crime scene.

Instruction: General principles of investigation, with suggested procedures for specific types of law violators; reporting procedures necessary for statistical studies and specialist followup; aspects of crime prevention as they relate to the police officer's role.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the

upper division baccalaureate category, 3 semester hours in Criminal Justice (8/74).

Criminal Law

Length: 63 hours.

Dates: January 1974—Present.

Objective: To provide the student with practical working knowledge of specific criminal offenses.

Instruction: Comprehensive analysis of criminal law and procedures; methods of interpretation of criminal statutes; statutory definitions of crime; study of case law related to criminal statutes and applications to specific situations. Emphasis is on underlying framework of criminal law.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Criminal Justice or Criminology (8/74).

Internship in Criminal Justice

Length: 360 hours (9 weeks).

Dates: January 1974—Present.

Objective: To provide field experience as part of the Student Officer Training Program.

Instruction: Structured field experience during which the student officer is introduced to the practical application of police theory and technique. Criminal justice procedures; precinct organizational structure (neighborhood police teams and functional management); crisis intervention; community relations activities; reaction control training; investigatory skills; preventive patrol techniques. Individual students are assigned on a rotating basis to selected field training officers who receive special training and extra compensation for their role. The training officers supervise the field experience and evaluate the performance of the students three times during the internship. The final evaluation and certification as a police officer takes place at the end of the probationary year.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 6 semester hours as an Internship in Criminal Justice (8/74).

Introduction to Law

Length: 62 hours.

Dates: January 1974—Present.

Objective: To provide the student with a basic introductory course in law with emphasis on the development of legal principles and concepts and with application to law enforcement.

Instruction: The nature of law in contemporary society; study of the U.S. Constitution with emphasis on the Bill of Rights and the Fourteenth Amendment; constitutional rights of the accused; the police officer and the judicial process; application of legal concepts (probable cause, stop, questions, and frisk); court testimony.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Criminology, Government, Police Science, or Political Science (8/74).

Introduction to Law Enforcement

Length: 90 hours.

Dates: January 1974—Present.

Objective: To provide the student with an introduction to law enforcement and its role within society with specific reference to the function of the patrol officer.

Instruction: Role of law enforcement and the individual police officer's participation; departmental structure, policy, and the rationale of each; individual member's internal and external relationships and functions; purposes and operations of police patrol; skills, techniques, resources, and statutes with which the officer must be familiar.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Criminal Justice (8/74).

Introduction to Social Psychology

Length: 63 hours.

Dates: January 1974—Present.

Objective: To provide the student with knowledge of human behavior that he/she can anticipate upon becoming a police officer.

Instruction: Personality; crisis intervention; conflict management; interpersonal interaction; small group dynamics; adolescent behavior; communication theory; transactional analysis.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Behavioral Sciences, Criminal Justice, Social Science, or Social Work (8/74).

Physical Education

Part 1: Foundations of Physical Activity
Part 2: Lifesaving Techniques
Part 3: Safety Education, Accident Prevention, and First Aid
Part 4: Self-Defense
Part 5: Swimming I
Part 6: Swimming II

Length: 170 hours.

Dates: January 1974—Present.

Objective: To prepare the student for the physiological and psychological demands involved in the work of a police officer.

Instruction: Part 1: Survey of physiological, psychological, and sociological aspects of physical fitness; skills, body mechanics, and methods of maintaining and improving physical fitness; role of physical conditioning, nutrition, and basic health habits. **Part 2:** Advanced survival techniques and strokes; safety procedures; use of flotation devices and safety aids. American Red Cross Senior Lifesaving Certificate is issued to all who pass the senior lifesaving tests. **Part 3:** Principles of safety; theory and practice of first aid procedures in emergency situations (shock, wounds, heart attacks, strokes) and extrications from dangerous situations. **Part 4:** Theory, skills, and practice of judo, karate, and boxing techniques; basic blows, throws, and defenses; application of these skills to combative situations. **Part 5:** Fundamentals of water safety; instruction and practice in various swimming techniques and in elementary forms of diving. **Part 6:** Intermediate swimming; basic water safety techniques; emphasis on form and endurance in the crawl, sidestroke, breaststroke, and elementary backstroke.

Credit recommendation: Part 1: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (8/74). **Part 2:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Physical Education (8/74). **Part 3:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (8/74). **Part 4:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (8/74). **Part 5:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Physical Education (8/74). **Part 6:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Physical Education (8/74).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE DEPARTMENT OF CIVIL SERVICE

The Department of Civil Service is the central personnel agency for New York State government. It also provides local civil service agencies with many of the services offered to State agencies. Its functions include recruiting; testing and placement of job applicants; reviewing personnel transactions; classifying jobs and allocating them to salary grades; and such personnel services as training, health insurance, and management development. Special programs are conducted to increase employment opportunities for members of minority groups with disadvantaged backgrounds.

Source of official student records: Department of Civil Service, Training Section, State Office Building Campus, Building 1, Albany, New York 12239.

Introduction to EDP—Technical (B-1-110)

Location: Training Section classrooms, State Office Building Campus, Albany, NY.

Length: 138 hours.

Dates: January 1974—Present.

Objective: To provide a broad and comprehensive introduction to data processing to further the career development of those who will be directly involved with New York State EDP activities.

Instruction: Hardware concepts; systems and programming concepts; case study; programming languages concepts. The course contains no practical computer programming experience. Lecture and discussion is supplemented by laboratory/workshops and a case study in computer systems design.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Data Processing (2/75).

PUBLIC ADMINISTRATION TRAINING PROGRAM

The Public Administration Training Program is designed for carefully selected New York State agency employees (trainees) and qualified recent graduates of Master's programs in various disciplines (interns). The trainees and interns participate together in this yearlong program which focuses on the basic principles of public administration.

An important tool in the delivery of the program material is the use of weeklong institutes in which experienced academicians and practitioners discuss with the students their knowledge of budgeting, management analysis, the organization of New York State government, and personnel administration. Those concepts are then applied to different current issues in the field. The current issues to be covered each year in the six institutes are decided upon by student consensus based on their combined interests and learning needs. Thus, the concepts taught each year remain the same, while the focus of their application varies according to the circumstances of the time.

On-the-job training plays a significant role in this program. While working with their supervisor and agency training officer, the trainees and interns have the opportunity of applying these new concepts to actual on-the-job situations. Both the trainees' and the interns' working supervisors and the program supervisor in the Department of Civil Service evaluate and report on the students' performance in the program.

At the conclusion of the program, students are required to submit joint research projects which report on their application of recently learned concepts to a specific problem in the field of public administration.

Please note that the credit recommendation which has been established is *only* for the material covered in the six institutes. No attempt was made to evaluate the on-the-job component of the program.

Source of official student records: Supervisor, Intern-Trainee Program, Department of Civil Service, Training Section, State Office Building Campus, Building 1, Albany, New York 12239.

Public Administration Training Program

Location: Training Section classrooms, State Office Building Campus, Albany, NY.

Length: 175 hours (1 year); 6 weeklong institutes.

Dates: January 1971–Present.

Objective: To provide the student with an understanding of the basic principles of public administration with particular reference to their application to State government.

Instruction: Manpower management and utilization; the structure and function of New York State government; the environment of administration; public policy and problem analysis; intergovernmental relations; the legislative, judicial, and executive processes; current concerns in the field of public administration. At the end of the yearlong program, teams of 4-6 students are required to submit substantial research projects which have applied the concepts acquired over the year to a specific problem in the field of public administration. Each student is also required to submit bimonthly reports and to solve workshop problems. Classroom instruction is enhanced by workshops, the availability of a film library and Civil Service video capabilities, textbooks, and a reference library.

Credit recommendation: In the upper division baccalaureate category, 5 semester hours in Political Science, Public Administration, or Social Science (3/75).

Additional information on these courses may be obtained from:

Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE DEPARTMENT OF LABOR

The mission of the Department of Labor is to administer the State Labor Law and the rules and regulations set forth in the New York State Industrial Code. In pursuing this mission the Department seeks to attain the following goals: (1) to protect the health and safety of employees, employers, and the public from hazards arising out of employment; (2) to improve the working conditions of men, women, minors, and handicapped employees in industry and trade; (3) to broaden employment opportunities through a statewide employment service; (4) to ensure full payment of wages and employer adherence to minimum wage laws; (5) to provide benefits to workers eligible for unemployment insurance, workmen compensation, and disability benefits; and (6) to foster peaceful relations between labor and management.

To help ensure employees' personal and career development and to meet the needs of the agency, the Department sponsors various educational and training activities. These include a comprehensive program of in-service training and development involving induction training for new employees and continuing training as needed for all other employees.

Source of official student records: For Metropolitan New York City—Assistant Director of Labor Training, Department of Labor, Room 3412, Two World Trade Center, New York, New York 10047; For Upstate New York—Assistant Director of Labor Training, Department of Labor, State Office Building Campus, Albany, New York 12201.

Basic Placement Training

Location: Various Department training facilities.

Length: 227 hours; 100 hours lecture, 127 hours supervised on-the-job training.

Dates: January 1970—Present.

Objective: To provide the student with an orientation to the role and function of the Employment Security Placement Trainee and with the knowledge, skills, and attitudes needed to perform that assignment.

Instruction: Introduction to Employment Security and its programs; interviewing techniques; occupational classification and the Dictionary of Occupational Titles; job development; dynamics of the labor market; service to special applicants; introduction to testing; the Unemployment Insurance Law; Equal Employment Opportunity. The lecture-discussion approach is used, along with video-taping and role playing, and supervised on-the-job experiences.

Credit recommendation: In the upper division baccalaureate category, 6 semester hours in Education, Psychology, or Sociology (4 lecture, 2 laboratory) or in the graduate degree category, 3 semester hours in an Introductory Vocational Counseling Practicum (10/75). NOTE: The probationary period following the training program must be successfully completed in order to receive credit.

Basic Unemployment Insurance Claims Training

Location: Various Department training facilities.

Length: 352 hours; 90 hours lecture, 262 hours supervised on-the-job training.

Dates: January 1970—Present.

Objective: To provide the student with an orientation to the role and function of the Employment Security Claims Trainee, and with the skills, knowledge, and attitudes necessary to perform that assignment.

Instruction: Interviewing skills; unemployment insurance law; adjudicative skills; using evidence in decision making; effective determination writing; state unemployment insurance policies. The lecture-discussion method is used, along with video-taping and role playing and supervised fieldwork.

Credit recommendation: In the upper division baccalaureate category, 7 semester hours in Education, Psychology, or Sociology (3 lecture, 4 laboratory) or in the graduate degree category, 3 semester hours in an Introductory Vocational Counseling Practicum (10/75). NOTE: The probationary period following the training program must be successfully completed in order to receive credit.

Fundamentals of Supervision I

Location: Various Department training facilities.

Length: 45 hours.

Dates: April 1973—Present.

Objective: To prepare first level supervisors to perform their supervisory functions more effectively.

Instruction: Introductory workshop and seminar on the techniques and practice of first level supervision in government. Combines basic organizational and behavioral theory with case studies, role-playing exercises, and experiential learning. Coverage of planning, delegation, problem solving, decision making, control methods, job improvement, staff evaluations and training, discipline and leadership. Extensive emphasis on student participation and interaction.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Personnel Administration (10/75).

Fundamentals of Supervision II (Professional Level)

Location: Various Department training facilities.

Length: 217 hours; 67 hours classroom, 150 hours supervised on-the-job training.

Dates: September 1970—Present.

Objective: To provide newly appointed supervisors at the first professional level with the knowledge and skills necessary to perform their supervisory tasks effectively.

Instruction: Workshop on the practical aspects of supervision at the first professional level in government combined with supervised fieldwork. Supervisory responsibilities; communications and staff responsibilities; techniques of auditing and performance evaluation; staff meetings; using administrative manuals; planning and delegating; analysis and utilization of control results; exercising leadership.

Credit recommendation: In the upper division baccalaureate category, 5 semester hours in Management (3 lecture, 2 laboratory) (10/75). NOTE: The probationary period following the course must be successfully completed in order to receive credit.

Labor Standards Investigator Basic Training

Location: Department training facilities: Albany and New York, NY.

Length: 255 hours; 105 hours classroom, 150 hours supervised on-the-job training.

Dates: January 1969—Present.

Objective: To provide the student with the knowledge and skills necessary to function as a qualified Labor Standards Investigator.

Instruction: Orientation to organizational missions and structures; State labor laws governing such things as minimum wages, child labor, wage payment, and hours of work; principles and techniques of investigations; preparation of written reports; interpreting written material; analyzing and evaluating evidence. Practical skill training in investigatory techniques, evaluating evidence, and report preparation.

Credit recommendation: In the upper division baccalaureate category, 8 semester hours in Industrial Relations (5 lecture, 3 laboratory) (10/75). NOTE: The probationary period following the training program must be successfully completed in order to receive credit.

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE DEPARTMENT OF MOTOR VEHICLES

The Department of Motor Vehicles is responsible for the registration of resident motor vehicles, examination and licensing of operators, control and improvement of deficient drivers, inspection and evaluation of the mechanical condition of motor vehicles, collection and analysis of motor vehicle accident information, and management of the compulsory automobile liability insurance program. Each of these functions has a contributory role to the Department's larger responsibility for promoting automotive traffic accident prevention in the State.

To help ensure its employees' personal and career development, and to meet the needs of the agency, the Department sponsors a variety of educational and training activities.

Source of official student records: Department of Motor Vehicles, Training Section, Empire State Plaza, Swan Street Building, Albany, New York 12228.

Concepts of Programming

Location: Programming Department, State Department of Motor Vehicles, Albany, NY.

Length: 100-120 hours; individualized program.

Dates: May 1969—Present.

Objective: To provide the student with the general methods and concepts used in programming.

Instruction: Understanding of computer hardware; flowcharting; job, task, and information management; binary and hexadecimal arithmetic. No actual programming is involved. Programmed instruction is supplemented by a 20-hour audio-visual course. There is one-to-one contact between student and instructor.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Computer Science or Data Processing (2/75).

Programming and Debugging in Assembler Language

Location: Programming Department, State Department of Motor Vehicles. Albany, NY.

Length: 38 hours.

Dates: May 1969—Present.

Objective: To enable the student to write and debug programs in Assembler Language, use utility programs, and develop correct programming concepts.

Instruction: Introduction and review of programming requirements (use of systems macros, catalogs, and libraries); the use of utility programs; advanced debugging techniques; analysis of system dumps. The student writes and debugs a file maintenance program. Lecture and audio-visual programs are supplemented by 350-500 hours of actual programming and on-the-job training.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Computer Science or Data Processing (2/75).

System Control and Assembler Language Coding

Location: Programming Department, State Department of Motor Vehicles, Albany, NY.

Length: 90-100 hours; individualized program.

Dates: June 1969—Present.

Objective: To introduce the student to the use of Job Control Language (JCL) and coding in Assembler Language.

Instruction: Introductory Assembler Language coding (problem definition, flowcharting, coding, debugging, testing, and program documentation); actual programming experience and use of JCL; IBM 360/370 machine coding. Programmed instruction is supplemented by one-to-one contact between the student and instructor.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Science or Data Processing (2/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE DEPARTMENT OF SOCIAL SERVICES

The Department of Social Services serves New York State citizens who are in need of financial assistance, medical care, or services necessary to help them manage their lives. The Department sets standards for assistance and supervises the activities of the 58 local social services districts which are responsible for the administration of the various service programs.

The Bureau of Manpower Planning and Development within the Department is responsible for developing and implementing education and training programs for State and local staff in order to assist in achieving the mission of the social services system.

Source of official student records: Bureau of Manpower Planning and Development, Department of Social Services, 1450 Western Avenue, Albany, New York 12203.

Administration and Organizational System

Location: Mohawk Tower, State University of New York at Albany, Albany, NY.

Length: 45 hours (15 weeks).

Dates: May 1975—Present.

Objective: To provide the student with administration and organization theory as applied to processes used by complex public organizations.

Instruction: The administrative process; external relations; administrative environment; financial management; personnel administration; organization and methods; executive dynamics; executive leadership. In addition to standardized textbooks, materials have been developed within the Department to relate course content to specific departmental issues. Each student is required to write a term paper focusing on the analysis of departmental problems. Lecture and discussion are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Political Science or Public Administration (4/75).

Managing in Public Social Services

Location: Department of Social Services local offices throughout the 58 districts.

Length: 30 hours (1-6 weeks); length varies according to agency operational needs.

Dates: June 1975—Present.

Objective: To provide the student with the basic principles, concepts, and techniques for managing reporting persons.

Instruction: The facilitator focuses discussion on the manager's role in directing, interpreting, tutoring, mediating staff conflict, and suggesting proposals for change. Independent study materials are enhanced by small group discussions, filmed case studies, and in-basket exercises for the purpose of applying the basic principles to job-related situations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Supervisory Management (4/75).

The Behavioral Approach to Management Studies

Location: Mohawk Tower, State University of New York at Albany, Albany, NY.

Length: 45 hours (15 weeks).

Dates: February 1975—Present.

Objective: To provide the student with management theory and practice as they apply to the administration of a complex organization.

Instruction: Human factors in management; leadership; communications; management styles; motivation; organizational development and management of change; policy issues and human resource management; assessing employee performance; employee relations; management by objectives. In addition to standardized textbooks, specialized ma-

terials have been developed within the Department to relate course content to specific departmental issues. Students are required to write two papers related to the analysis of departmental problems. Lecture and discussion are used.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Business Administration, Political Science, or Public Administration (4/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE DEPARTMENT OF STATE

The Department of State is the general recording agency of New York State. Its responsibilities include being the depository of the original State land records, preparing election material for county boards of election, and filing certificates of incorporation (other than those of banking, insurance, and educational institutions). Within the department, the Division of Community Affairs assists local communities in utilizing the resources of State government for their own benefit and in coordinating the activities of State agencies to provide more effective services to local governments.

The courses listed below are offered by the Bureau of Fire Training and Advisory Services of the Division of Community Affairs for professional and volunteer fire personnel throughout the State. The courses are conducted annually at the State Academy of Fire Science in Montour Falls at various times throughout the year. The Bureau also conducts the New York State Fire Training Program, which consists of 13 courses in standardized fire-fighting skills offered at regional locations in the State.

Source of official student records: Department of State, Division of Community Affairs, Bureau of Fire Training and Advisory Services, 162 Washington Avenue, Albany, New York 12231.

Arson Investigation Course

Location: Academy of Fire Science, Montour Falls, NY.

Length: 27 hours (4-1/2 days); residential.

Dates: November 1974—Present.

Objective: To provide the student with the necessary skills and techniques to conduct post-fire investigations for the purpose of determining fire causes.

Instruction: The history, development, and philosophy of fire investigation and detection; gathering of evidence and development of technical reports; fundamentals of arson investigation; detecting criminal evidence; criminal procedures related to various local and State statutes. (Prerequisites: "Essentials of Firemanship" and "Fire Investigation Course" of the New York State Fire Training Program.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Criminal Justice, Fire Protection Technology, or Fire Science (4/75).

Fire Science Training Techniques

Location: Academy of Fire Science, Montour Falls, NY.

Length: 90 hours (3 years); residential, 1 week per year.

Dates: January 1972—Present.

Objective: To provide comprehensive training skills and evaluation techniques for experienced fire officers.

Instruction: Principles, structure, and practices of training necessary for fire officers to facilitate the learning process of fire service personnel. Transactional analysis; the use of training aids and resource materials; desirable characteristics in an instructor; behavior as it affects learning; development, coordination, and implementation of a fire science training program. Students participate in a group evaluation session in which each student is given a critique and then plays a role in the evaluation process. Lectures and workshops stress class participation. During this 3-year program the students practice teach (approximately 300 hours) in their local districts under the supervision of field representatives.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Fire Protection Technology or Fire Science (4/75).

Introduction to Fire Inspection

Location: Academy of Fire Science, Montour Falls, NY.

Length: 28 hours (1 week); residential.

Dates: February 1974 – Present.

Objective: To develop the inspection capabilities of municipal and fire service personnel.

Instruction: The procedures for conducting detailed and exacting inspections of all types of structures for the purpose of reducing fire losses and preventing fires. Recognition of fire hazards, development and implementation of an inspection program; review of State and national codes pertaining to fire prevention. The students are required to attend lectures and field trips to local industries and municipal buildings. After field trips, the students complete inspection reports which are reviewed and criticized by the instructor. (Prerequisites: "Essentials of Firemanship" and "Fire Inspection Practices" of the New York State Fire Training Program.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Fire Protection Technology or Fire Science (4/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE DIVISION OF STATE POLICE

The Division of the New York State Police is responsible for rendering police services to all the people of the State. There are nearly 3,500 men and women working throughout nine Troop areas. With the exception of the Thruway Troop, each Troop is specifically responsible for policing approximately eight to ten counties. In 1935, a Detective force was created to be responsible for the investigation of all major crimes; this unit is now known as the Bureau of Criminal Investigation.

Training programs date back to the inception of the Division in 1917. In May of 1970, the State Police Academy opened on the State Campus at Albany. This was the first time that the Division had a facility of its own devoted exclusively to its training requirements. In addition to the Basic Recruit Program, the academy conducts inservice courses for State Police officers and representatives from other law enforcement agencies. The aim is to enable officers to keep abreast of the ever-changing field of law enforcement while simultaneously upgrading their skills in such areas as police administration and criminal investigation.

Source of official student records: Director of Training, State Police Academy, State Campus, Albany, New York 12226.

BASIC RECRUIT PROGRAM

The courses listed below constitute the academic component of the Basic Recruit Program conducted at the Police Academy. This is an intensive 18-week residential program attended by all newly appointed troopers of the State Police. The total program as presently constituted has been offered since October 1971, although individual courses have been offered with substantially the same content for a longer period of time; this is noted for the specific courses.

1. Accident Investigation
2. Vehicle and Traffic Law I
3. Vehicle and Traffic Law II

Length: 100 hours.

Dates: September 1961—Present.

Objective: To provide the student with knowledge of the New York State Traffic Laws, Federal standards, codes, and laws, and terminology contained in the Vehicle and Traffic Law.

Instruction: The procedures and standards of proof required in related judicial proceedings (rules of the road, vehicle and traffic accusatory instruments and bills of particulars); treatment of latest methods of accident investigation (identification of primary and secondary causes of accidents). A laboratory experience is provided with strong emphasis on Driving While Intoxicated Enforcement.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Vehicle and Traffic Law (3/74). NOTE: Courses 1, 2 and 3 must all be completed in order to receive credit.

Community Relations for Police

Length: 40 hours.

Dates: June 1964—Present.

Objective: To provide the student with a multidimensional survey of police/community relations.

Instruction: The role of the police in community relations; the psychological and sociological aspects of human relations; the nature of prejudice and discrimination in police work; the development of the police image and a recognition of the importance of communications with the public; civil disobedience; police corruption and police professionalism.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in The Police and The Community (3/74).

Consolidated Laws and Procedures

Length: 36 hours.

Dates: June 1964—Present.

Objective: To provide an overview of the Consolidated Laws and Procedures of New York State and selected Federal statutes in which there is a concurrent enforcement responsibility.

Instruction: Bail; family court and offenses against the court; conservation law; State and Federal probation; pardon and parole; Federal enforcement agencies.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Consolidated Laws and Procedures (3/74).

Criminal Investigations

Length: 60 hours.

Dates: June 1964—Present.

Objective: To provide knowledge and skills necessary to conduct a sound police investigation.

Instruction: General principles; preliminary investigation; collection and preservation of information; sources of information. In addition to general investigative techniques, emphasis is placed on those types of criminal activities which require specialized methods of investigation. A laboratory experience is provided through the Practical Case Exercise in which investigative techniques are applied directly to situations that actually occur in field assignments.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Criminal Justice (3/74).

Criminal Law

Length: 60 hours.

Dates: September 1961—Present.

Objective: To provide an introduction to the New York State Penal Law.

Instruction: The New York State Penal Law (its purposes and those definitions applicable to enforcement considerations); the elements of various offenses (anticipatory offenses, theft, fraud, damage and intrusion onto property, and offenses against the person and public order); the legal basis for proscribing conduct; the justification for the lawful use of physical force.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Criminal Law (3/74).

Criminal Procedure Law

Length: 60 hours.

Dates: September 1961—Present.

Objective: To provide an introduction to Criminal Procedure Law.

Instruction: Working knowledge of procedures and standards of proof required for preliminary judicial action in the lower or local court (geographical jurisdiction of offenses, scope of prosecution, and rules of evidence); procedures related to arrest for an offense from the time of arrest through sentencing and probation procedures (laws of arrest, proceedings from arraignment to plea, and search and seizure).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Criminal Procedure Law (3/74).

Emergency Services School

Length: 40 hours.

Dates: June 1964—Present.

Objective: To provide knowledge and skills necessary for the student to effectively handle emergency situations.

Instruction: Knowledge and skills necessary to handle situations requiring immediate action to safeguard life and property or prevent further hazards to either. Emergencies involving public utilities, dangerous materials, extrications, and search and recovery operations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Criminal Justice (3/74).

Introduction to Law Enforcement and Government

Length: 40 hours.

Dates: October 1971—Present.

Objective: To provide an understanding of the organization and functions of Federal, State, and

local governments and an introduction to Federal and State Constitutional Law.

Instruction: Examination of the organization and functions of government at the Federal, State, and local levels, with emphasis on those governmental operations which directly affect the field of law enforcement; basic introduction to Federal and State Constitutional Law. The dimensions, operations, and alternatives presented by the criminal justice system (the police function, the judicial function, and the correctional process).

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Introduction to Law Enforcement or in the upper division baccalaureate category, credit on the basis of institutional examination (3/74).

Vehicle and Traffic Law I

Refer to Accident Investigation.

Vehicle and Traffic Law II

Refer to Accident Investigation.

INSERVICE COURSES

Basic Supervisory Administration

1. **Inservice Training for Noncommissioned Officers**
2. **Noncommissioned Officers Course**

Location: State Police Academy, State Campus, Albany, NY.

Length: 1. 32 hours (1 week); residential.
2. 64 hours (2 weeks); residential.

Dates: July 1974—Present.

Objective: To acquaint the student with management concepts and principles of leadership in police administration.

Instruction: First-line supervisory training. Administrative procedures; supervision; leadership; grievance and disciplinary problems; techniques of improving morale and motivation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Police Management and Supervision (2/75).

Criminal Investigations II

Location: State Police Academy, State Campus, Albany, NY.

Length: 64 hours (2 weeks); residential.

Dates: January 1964—Present.

Objective: To introduce the new criminal investigator to the methods and techniques employed in the investigation of crimes and to other appropriate law enforcement methods.

Instruction: An advanced course in criminal investigation for the new investigator. Review of the basic principles of investigation; advanced instruction in the investigative techniques relating to serious crimes (homicide, arson, sex crimes, and gambling).

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Criminal Justice. NOTE: For students from other law enforcement agencies who attend only the second week of the course, 1 semester hour of credit is recommended (2/75).

Inservice Training for Noncommissioned Officers

Refer to Basic Supervisory Administration.

Noncommissioned Officers Course

Refer to Basic Supervisory Administration.

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK STATE OFFICE OF DRUG ABUSE SERVICES

The Office of Drug Abuse Services (ODAS) was originally established in 1966 as the Narcotic Addiction Control Commission and was later known as the Drug Abuse Control Commission. The office operates as an autonomous division within the New York State Department of Mental Hygiene. Two major responsibilities of ODAS are the treatment and rehabilitation of narcotic addicts and other drug-dependent persons and the prevention of dysfunctional drug abuse.

The Office develops inservice training programs to help employees meet the responsibilities of ODAS. Staff development opportunities, both those that are job-oriented and those directed toward personal growth, are available to all employees and are offered at a variety of locations throughout the State.

Source of official student records: Director of Staff Development, Office of Drug Abuse Services, Box 8200, Stuyvesant Plaza, Albany, New York 12203.

Advanced Seminar in Personality Dynamics and Treatment Techniques with Drug Abusers

Location: Queensboro Community Rehabilitation Center, 47-04 Van Dam Street, Long Island City, NY.

Length: 45 hours (30 weeks).

Dates: September 1974—Present.

Objective: To enhance the student's knowledge of personality dynamics and interpersonal skills by building upon the foundations of basic theory and knowledge in personality dynamics, psychopathology, and treatment techniques.

Instruction: An intensive integration of theory and skills in the treatment process. Interview techniques; transference and countertransference phenomena; personality structure; ego pathology in drug abuse; dynamics of drug abuse. Course format includes group discussion of case material presented by students, role playing, selected readings, and interview tutorials with the seminar leader. (Prerequsite: Seminar in Personality Development, Psychopathology, and Treatment Techniques).

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Counseling, Psychology, or Social Work (3/75).

Black and Puerto Rican Americans and American Social Institutions

Location: Ridge Hill Rehabilitation Center, Yonkers, NY.

Length: 36 hours (12 weeks).

Dates: May 1975—Present.

Objective: To provide the student with information on some selected factors relating to black and Puerto Rican life experience that may relate to the lives and behavior of currently institutionalized residents.

Instruction: Examination of issues which contribute to the disporportionately high rates of unemployment, poverty, family disruption, and involvement in crimes and delinquency among blacks and Puerto Ricans. Instructional format is primarily lecture and discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Social Science (7/75).

Booze: Mankind's Oldest Problem Drug (AK 107)

Location: Arthur Kill Community Rehabilitation Center, 2911 Arthur Kill Road, Staten Island, NY.

Length: 30 hours (15 weeks).

Dates: October 1973—Present.

Objective: To provide the student with information about alcohol viewed as a drug and alcoholism as an addictive disorder.

Instruction: Alcohol as a substance (its pharmacology, history, culture, psychology, scope, and species); alcoholism as an addictive disorder; its relationship to other addictive disorders.

Credit recommendation: In the graduate degree category, 3 semester hours in Counseling, Psychology, Social Work, or Sociology (7/75).

Experiential Seminar in Behavior Therapy Techniques

Location: Otisville Rehabilitation Center, Otisville, NY.

Length: 30 hours (1 week).

Dates: April 1974—Present.

Objective: To have students learn and experience principles and techniques of behavior therapy.

Instruction: Orientation to and history of behavior therapy; techniques of relaxation, desensitization, self-image training, behavior analysis, behavior control, assertive training, and rational thinking. Behavior therapy techniques are explored through lectures, self-application, role playing, and group discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Applied Behavioral Sciences (3/75).

Introduction to Behavioral Dynamics

Location: Ridge Hill Rehabilitation Center, Yonkers, NY.

Length: 36 hours (12 weeks).

Dates: May 1975—Present.

Objective: To introduce the student to the psychodynamic and learning theory models of personality development.

Instruction: Psychodynamic and learning theory models are used to illustrate divergent theories of psychopathology and to help explain such clinical phenomena as depression and suicide. Personality assessment tools, psychological testing methods, and various treatment approaches are examined. Films, lectures, selected readings, group discussions, and case studies are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Psychology (7/75).

Introduction to Behavioral Techniques (AK 102)

Location: Arthur Kill Community Rehabilitation Center, 2911 Arthur Kill Road, Staten Island, NY.

Length: 60 hours (15 weeks).

Dates: May 1974—Present.

Objective: To improve the student's interpersonal relationships by providing a better understanding of counseling techniques and specific behavioral techniques which are useful with both individuals and groups.

Instruction: The course is designed to teach basic group skills. A minimum of behavioral and learning theory concepts are combined with a maximum of technique and practical application. The emphasis is on the use of group skills with drug addicts in a confined setting.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Applied Behavioral Sciences (3/75).

Introduction to Communication Skills (AK 101)

Location: Arthur Kill Community Rehabilitation Center, 2911 Arthur Kill Road, Staten Island, NY.

Length: 15 hours (15 weeks).

Dates: June 1974—Present.

Objective: To solve problems in staff communications and to teach basic communication skills.

Instruction: An approach to communications from a problem-solving position. Definition of communications as any transaction between human beings; consideration of the most common problems in communications within organizations. Practical exercises are used to enhance communication skills.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Applied Behavioral Sciences or Communications (3/75).

Introduction to Group Counseling

Location: Ridge Hill Rehabilitation Center, Yonkers, NY.

Length: 48 hours (14 weeks); includes 6 hours of laboratory exercises.

Dates: November 1974—Present.

Objective: To familiarize the student with knowledge and skills of group counseling dynamics and

techniques so that he/she can function as an aide to the group leader in a resident treatment group.

Instruction: An overview of group counseling dynamics and techniques for use with institutionalized substance abusers. Problems and issues of group counseling are treated through the use of video-tape presentations, one-way mirror observations, role-play exercises, and related exercises. Lectures, selected readings, and group experiences are also used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Psychology, Social Science, or Social Work (7/75).

Orientation to Substance Abuse: Its Nature and Treatment (AK 108)

Location: Arthur Kill Community Rehabilitation Center, 2911 Arthur Kill Road, Staten Island, NY.

Length: 30 hours (20 weeks).

Dates: September 1975—Present.

Objective: To orient the student to the nature of abused substances and the treatment modalities for drug and alcohol abuse.

Instruction: Survey of the nature and function of abused substances, particularly drugs and alcohol; consideration of the pharmacology of abused substances, the types of abusers, related cultural factors, and how these may influence treatment and referral.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category (introductory), 3 semester hours in Counseling, Psychology, Social Work, or Sociology (7/75).

Seminar in Group Psychotherapy

Location: Queensboro Community Rehabilitation Center, 47-04 Van Dam Street, Long Island City, NY.

Length: 45 hours (30 weeks).

Dates: January 1974—Present.

Objective: To enhance the student's knowledge, attitudes, and skills in the use of group therapy techniques.

Instruction: Analysis of tape-recorded sessions which examine processes of group formation, group dynamics, intervention techniques, special problem clients, problems of transference and countertransference. As part of the seminar, staff members with different levels of experience work together as co-leaders of residential and aftercare groups. Relevant readings are assigned and individual tutorials are held to facilitate student presentation of taped materials.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category (introductory), 3 semester hours in Counseling, Psychology, or Social Work(3/75).

Seminar in Milieu Treatment Approaches

Location: Queensboro Community Rehabilitation Center, 47-04 Van Dam Street, Long Island City, NY.

Length: 45 hours (30 weeks).

Dates: January 1974—Present.

Objective: To prepare the worker to assume an appropriate role as a member of a treatment team by laying a foundation in mental hygiene concepts and practices.

Instruction: Basic introduction to personality development, psychopathology, and treatment techniques. The focus of the course is on the self-image of the correction officer and his knowledge, attitudes, and skills in communicating with clients and colleagues. Critical incidents are presented by members, and role playing is used to practice new skills in appropriate interventions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Applied Behavioral Sciences (3/75).

Seminar in Personality Development, Psychopathology, and Treatment Techniques

Location: Queensboro Community Rehabilitation Center, 47-04 Van Dam Street, Long Island City, NY.

Length: 45 hours (30 weeks).

Dates: November 1973—Present.

Objective: To provide basic theoretical knowledge and skills practice in the areas of personality assessment and treatment techniques.

Instruction: Theoretical and practical experience in differential diagnosis, treatment planning, and the delivery of services via the staff/client relationship; theoretical models for diagnosis and treatment of personality disorders; appropriate utilization of rehabilitation center facilities and services for clients within the community. Instruction includes group discussion, written and taped material presented by the participants, skills practice and readings in personality dynamics and treatment of drug abusers.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree

category, 3 semester hours in Counseling, Psychology, or Social Work (3/75).

Seminar in Psychopathology and Group Treatment Modalities (AK 104)

Location: Arthur Kill Community Rehabilitation Center, 2911 Arthur Kill Road, Staten Island, NY.

Length: 46 hours (23 weeks).

Dates: September 1974 – Present.

Objective: To review basic concepts in psychodynamics, psychopathology, and drug abuse; to enable participants to demonstrate knowledge of the principle group therapy approaches and make judgments about their usefulness; to teach the application of basic understanding of human behavior in clinical settings.

Instruction: Basic principles of human development according to Freud, Erikson, and Piaget; classic concepts in pathology (neurosis, psychosis, and character disorder); basic approaches to group therapy (analytical, behavioral, Rogerian, transactional, sensitivity, self-actualization, and reality therapy).

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category (introductory), 3 semester hours in Counseling, Psychology, or Social Work (3/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

NEW YORK TELEPHONE COMPANY

The New York Telephone Company, which employs over 80,000 persons throughout the State, is part of the nationwide Bell System. The company provides communication services to over six million customers in New York State and Greenwich, Connecticut. Services range from basic home telephone services to complete business communication systems. Telephone facilities transmit voice, television, and other pictures, as well as coded symbols and data between people, computers, and business machines.

The company has developed courses in many different areas to provide employees with an opportunity to receive appropriate training at various intervals in their careers. Courses focus on developing the technical, administrative, and managerial skills that are most relevant to the job being performed. There are also courses in the area of personal development.

While the courses reviewed vary in length, in all cases the participating employees are released from other job responsibilities to attend.

Source of official student records: The student's district office within the company.

Accounting for Engineers (4031)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 32 hours (5 days); residential.

Dates: July 1972—Present.

Objective: To provide knowledge of basic accounting principles, with specific reference to engineering.

Instruction: Business and the need for accounting; double-entry bookkeeping; balance sheets; income statements and other financial reports; depreciation; accounting methods and procedures; expenditure control; division of revenue.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Basic Accounting Principles for Engineers (9/75).

Accounting Manager's Workshop (1007)

Location: Overlook Lodge, Bear Mountain, NY; Holiday Inn, Orangeburg, NY.

Length: 32 hours (4-1/2 days); residential.

Dates: December 1970—Present.

Objective: To increase the second-line manager's motivation, leadership skills, and acceptance of his/her basic accountability for meeting company and customer needs.

Instruction: Motivation; leadership; listening; problem solving; Linking Pin Theory; McGregor's Theory X & Y; appraisal techniques; time management; goals and operant management (positive reinforcement). Methodology consists of lecturette, films, and video role playing.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Management (11/74).

Advanced Data Training (A0000)

Location: 10 Columbus Circle, New York, NY.

Length: 90 hours (2 weeks); residential.

Dates: June 1971—Present.

Objective: To equip communications consultants, account consultants, and sales managers with the knowledge necessary to recognize and satisfy business needs in the data market by providing efficient and effective communications.

Instruction: Fundamentals of computer systems; input-output systems and their operation; information storage and retrieval; computer programming; computer concepts, time sharing, data transmission, and data switching; computer language from simple binary numbers to twelve-level codes.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Fundamentals (3/74).

A.T.&T. Manager Training Course (3002)

Location: Commercial Management Learning Center, 1790 Broadway, New York, N.Y.

Length: 105 hours (15 days).

Dates: January, 1970—Present.

Objective: To equip the new middle-level manager with the technical, administrative, and managerial skills necessary for effective middle-level management of a business office.

Instruction: Corporate finance; accounting methodology; labor relations; management by objectives; motivation; planning; decision making; performance appraisal; credit and collections. Application of theory is based on current thinking of behavioral psychologists. Methodology includes lectures, self-paced programmed instruction, group discussions, projects, role playing, and films.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Management Practices or in the graduate degree category, 3 semester hours in Management Practices (11/74).

1. Basic Installation—Suburban (102)
2. Basic Installation—Urban (101)
3. Station Repair (103)

Location: 1. Garden City, Jamaica, and New York, NY.
2. 461 Eighth Avenue, New York, NY.
3. Garden City, Jamaica, and New York, NY.

Length: 1. 56-120 hours; individualized program.
2. 56-120 hours; individualized program.
3. 16-24 hours; individualized program.

Dates: January, 1973—Present.

Objective: Courses 1 and 3: To provide the student with the skills required to install and repair basic suburban telephone station service. **Courses 2 and 3:** To provide the student with the skills required to install and repair basic urban telephone station service.

Instruction: Courses 1 and 3: Comprehensive coverage of work functions to perform all phases of primary telephone station installation, trouble analysis, and repair work. Programmed instruction (24 modules), including audio-visual material. **Courses 2 and 3:** Comprehensive coverage of work functions to perform all phases of primary telephone installation, trouble analysis, and repair work. Programmed instruction (28 modules), including audio-visual material.

Credit recommendation: Courses 1 and 3: In the lower division baccalaureate/associate degree category, 2 semester hours in Electrical Construction and Maintenance (8/75). **Courses 2 and 3:** In the lower division baccalaureate/associate degree category, 2 semester hours in Electrical Construction and Maintenance (8/75). NOTE: In order to receive credit, Course 3 must be completed with either Course 1 or Course 2.

Basic Installation—Urban (101)

Refer to Basic Installation—Suburban (102).

Business Office Supervisor (3003)

Location: Commercial Management Training Center, 1790 Broadway, New York, NY.

Length: 76 hours (3 weeks); residential, 64 hours of supervised on-the-job experience.

Dates: June 1968—Present.

Objective: To teach business office supervisors methods and techniques of supervision and policies, objectives, and techniques relating to personnel.

Instruction: Fundamentals of supervision, human relations, and managerial practice. Motivation; performance appraisal; policies; planning; control; union-management relations; customer relations; work measurement; other management techniques. Classroom experience is supplemented by workshops, case studies, and other experience-based learning.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Management or Personnel (3/74).

Career Development Workshop

Location: Mohonk Mountain House, New Paltz, NY.

Length: 40 hours (5 days); residential.

Dates: January 1974—Present.

Objective: To enable management women to explore career alternatives and to build the personal skills necessary to enhance career development by establishing self-development objectives.

Instruction: Acquaints participants with the general plan and purpose of the career development program; explores the organizational realities con-

fronting women competing for middle and upper management positions; provides opportunities to increase self-awareness and skills as group members and leaders; helps conferees build personal development programs. Individual work combined with highly participative group learning experiences. About one third of the course is lecture/discussion.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Social Science (Individual Development) (11/74).

Commercial Instructor Training Course (3004)

Location: Commercial Management Learning Center, 1790 Broadway, New York, NY.

Length: 105 hours (3 weeks); individualized program.

Dates: January 1972—Present.

Objective: To enable new instructors to conduct effective and efficient training by providing them with skills in presenting material, a teaching style, and a developmental questioning technique for responding to student questions and evaluating students.

Instruction: Treatment of learner-centered instruction. Behavioral objectives; a behavior development technique; a teaching technique; teaching demonstrations and critiques; student verbal and nonverbal communications; a mode of handling student mistakes; conducting evaluation discussions; handling technical errors. Emphasis is on the technical, rather than the theoretical, aspects of the teaching process. Approximately 60 percent of the course is programmed instruction and in-class practice teaching.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Education (9/75). NOTE: While this credit recommendation applies only to the course as offered by the New York Telephone Company, the course is taught with substantially the same content and procedures in other Bell System Operating Companies throughout the United States.

Crossbar Tandem (62)

Location: Garden City, Menands, New York, and Queens, NY.

Length: 480 hours (12 weeks).

Dates: January 1975—Present.

Objective: To provide the student with the ability to analyze, troubleshoot, and maintain electromechanical and associated circuitry.

Instruction: General description, features, basic components, and equipment aspects of electromechanical relay switching systems; trouble recognition and repair techniques; the use and maintenance of automated diagnostic recording equipment. A detailed study is made of block diagrams and schematics of typical switching systems. (Prerequisite: knowledge of basic electricity and circuit drawings.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 10 semester hours in Industrial (Electromechanical) Technology (6 lecture, 4 laboratory) (8/75).

Engineering Economy Principles (4067)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 45 hours (4 days); residential.

Dates: July 1973—Present.

Objective: To provide management personnel with an understanding of engineering cost study concepts and techniques and why such studies are essential to the financial structure of the Telephone Company.

Instruction: Capital-revenue-expense relationships; time value of money; annual charge rates; engineering economy study; profitability study; own versus lease study; retiring versus existing plant; division of revenue. Lecture-oriented, with several hours of problem-solving sessions.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in General and Cost Accounting Applications in Engineering (3/74).

Engineering Economy Techniques (4007)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 55 hours (5 days); residential.

Dates: January 1970—Present.

Objective: To equip management personnel actively engaged in the preparation or review of cost studies with the ability to apply the proper engineering cost study techniques to given study situations.

Instruction: Capital-revenue-expense relationships; time value of money; annual charge rates; engineering economy study; team workshop project; profitability study; own versus lease study: division

of revenue. Class time is equally divided between lecture periods and problem-solving sessions.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in General and Cost Accounting Applications in Engineering (3/74).

English as a Second Language

Location: Experimental Training Laboratory, 500 Eighth Avenue, New York, NY.

Length: 180 hours (12 weeks).

Dates: October 1971—Present.

Objective: To increase the student's proficiency in all skills of English (speaking, understanding, reading, and writing).

Instruction: Major structures of English at the intermediate level. Auditory comprehension; speaking; reading; writing. The basic methodology used is audio-lingual, but modifications and improvements from more recent methodologies, such as the Silent Way, are included. Materials are standard texts (Praninskas' *Rapid Review of English Grammar,* Lorenz' *Patterns of American English*) and visual aids.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in English as a Second Language (11/74).

First Level Workshop (5036)

Location: Overlook Lodge, Bear Mountain, NY.

Length: 40 hours (5 days); residential.

Dates: August 1974—Present.

Objective: To increase the first-level manager's self-awareness; to improve leadership skills.

Instruction: Roles of management. Planning; organization; leading and controlling; leadership functions; communications; problem analysis; decision making; subordinate development. Lectures, role playing, self-assessment instruments, facilitating, films and other audio-visual materials, and individual and sub-group activities are all incorporated in the course.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Management (11/74).

Force Management (9002)

Location: Traffic Management Training Center, 1790 Broadway, New York, NY.

Length: 49 hours (7 days).

Dates: January 1964—Present.

Objective: To teach office managers technical skills necessary to function in the area of force administration.

Instruction: All phases of force management cost control with emphasis on those functions that directly affect cost control and service rendered in the Traffic Central Office; development of statistical techniques and managerial considerations in formulating policies regarding workload forecasting and personnel planning; peg count procedures, long- and short-range force programs; development of efficiency measurements.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Managerial Planning, Operations Management, or Work Force Measurement (3/74).

Initial Management Training for Plant Foreman (8012)

Location: Corporate Learning Center, White Plains Hotel, White Plains, NY.

Length: 80 hours (2 weeks); residential.

Dates: January 1971—Present.

Objective: To teach foremen the basic concepts of the first-level supervisor's job.

Instruction: Fundamentals and applications of management practice. Planning; policy control; management by objectives; human behavior; salary administration and other personnel practices; cost control; union-management relations; appraisal. Lecture, discussion, case studies, role-playing exercises, and small group projects are used.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Management Process (3/74).

Instructional Technology Workshop (5034)

Location: Experimental Training Laboratory, 500 8th Avenue, New York, NY.

Length: 39 hours (5-7 days); programmed instruction.

Dates: January 1973—Present.

Objective: To provide new course developers with the necessary technology and processes to research, develop, implement, and validate training curricula.

Instruction: Overview of Instructional Technology. Objectives and goal analysis; criterion testing; training requirements; task analysis; instructional media and method validation. Emphasis is on the technical, rather than the theoretical, aspects of the teaching process. Instructor-led programmed instruction with sub-group and individual exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Education (9/75). NOTE: While this credit recommendation applies only to the course as offered by the New York Telephone Company, the course is taught with substantially the same content and procedures in other Bell System Operating Companies throughout the United States.

Key Telephone Systems—Repair (141)

Location: Garden City, Jamaica, and New York, NY.

Length: 45-120 hours; individualized program.

Dates: May 1974—Present.

Objective: To provide the student with the skills required to install and repair key telephone station systems.

Instruction: Key systems trouble analysis; circuit reading; testing procedures. Emphasis on component symbols, schematics, and circuit tracing. Students work on actual key equipment and analyze and isolate programmed troubles. Programmed instruction (10 modules).

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electrical Construction and Maintenance (8/75).

Language Skills

Location: Experimental Training Laboratory, 500 Eighth Avenue, New York, NY.

Length: 180 hours (9-12 weeks); individualized program.

Dates: January 1968—Present.

Objective: To provide remediation for students in elementary English language skills.

Instruction: Comprehension and vocabulary development. Identification and use of parts of speech and standard English grammatical usage; standard English syntactical variations; decoding, pronunciation, and use of over 5,000 frequently used words; acquisition of meaning from complex, day-to-day syntax; development of skills in performing under time pressures and test conditions; development of comprehension and analysis skills. Self-paced, programmed instruction is enhanced by lectures, skill practice sessions, and audio-visual aids.

Credit recommendation: In the vocational certificate category or in the lower division baccalaureate/associate degree category, 1 semester hour in Language Skills (English) (11/74).

Mathematics

Location: Experimental Training Laboratory, 500 Eighth Avenue, New York, NY.

Length: 180 hours (9-12 weeks); individualized program.

Dates: January 1968—Present.

Objective: To enable the student to gain computational mastery of basic arithmetic skills.

Instruction: Basic arithmetic skills. Addition, subtraction, multiplication, and division of whole numbers, common fractions, and decimals; ratio; proportion; percentages. Diagnostic testing directs the students to individualized learning materials appropriate for their background. Criteria testing measures and monitors the understanding and progress of the students. Programmed instruction is enhanced by lectures, individualized instruction, simulations, and skill practice sessions.

Credit recommendation: In the vocational certificate category or in the lower division baccalaureate/associate degree category, 1 semester hour in Basic Mathematics (11/74).

Methods/Staff Assistant Administrative Training (1004)

Location: Overlook Lodge, Bear Mountain, NY; Holiday Inn, Orangeburg, NY.

Length: 35 hours (5 days); residential.

Dates: May 1972—Present.

Objective: To enable new managers to apply specific management skills to first-line managerial responsibilities.

Instruction: Organizing; aspects of communications; controlling; planning; operant management (positive reinforcement); motivation; individual/group decision making; managerial styles. Methodology includes the use of lectures, discussion, in-basket exercises, role playing, readings, and video taping and critique.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Management or Administration (11/74).

Number Five Crossbar—with AMA (Automatic Message Accounting) (49 and 126)

Location: Garden City, Menands, New York, and Queens, NY.

Length: 520 hours (13 weeks).

Dates: December 1965—Present.

Objective: To provide the student with the ability

to analyze, troubleshoot, and maintain electromechanical and associated circuitry.

Instruction: General description, features, basic components, and equipment aspects of electromechanical relay switching systems; trouble recognition and repair techniques; the use and maintenance of automated diagnostic recording equipment. A detailed study is made of block diagrams and schematics of typical switching systems. (Prerequisite: knowledge of basic electricity and circuit drawings.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 10 semester hours in Industrial (Electromechanical) Technology (6 lecture, 4 laboratory) (8/75).

Number One Crossbar (109)

Location: Garden City, New York, and Queens, NY.

Length: 640 hours (16 weeks).

Dates: July 1968—Present.

Objective: To provide the student with the knowledge needed to analyze, troubleshoot, and maintain electromechanical and associated circuitry.

Instruction: General description, features, basic components, and equipment aspects of electromechanical relay switching systems; trouble recognition and repair techniques. A detailed study is made of block diagrams and schematics of typical switching systems. (Prerequisite: knowledge of basic electricity and circuit drawings.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 10 semester hours in Industrial (Electromechanical) Technology (6 lecture, 4 laboratory) (8/75).

Number One E.S.S. (Electronic Switching Systems) (507, 508, 509, 534 & 539)

Location: Garden City, Menands, New York, Queens, and White Plains, NY.

Length: 1014 hours (6 months).

Dates: January 1967—Present.

Objective: To provide the student with a comprehensive understanding of the fundamentals of digital electronics and computer technology.

Instruction: Introduction to electronic devices; binary and octal number systems; Boolean algebra; truth tables and Karnaugh maps; combinational and sequential logic circuits (gates and flip flops); ferrite core and read-only memory systems; clocks; computer architecture (bus systems, accumulators and registers, buffers, stocks and queues, memory addressing, and parity); programming in Machine and Assembly languages; flow charting; core mapping; I/O and diagnostic routines; peripheral devices (the tape transport, the teletype, and the magnetic card writer). Significant laboratory experience is included.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Basic Electronics and 6 semester hours in Digital Electronics and in the upper division baccalaureate category, 16 semester hours in Computer Technology (8/75).

Outside Plant Engineering—Basic (4032)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 96 hours (3 weeks); residential.

Dates: January 1973—Present.

Objective: To provide the student with an overview and basic working knowledge of the practical design techniques of telephone distribution systems.

Instruction: Route layout sheets; subscriber loop design; electrical protection principles; pole-line design; conduit and manhole design; service requirements; distribution cable design. The course is composed of modules which build on knowledge and skills learned in previous modules. Class time is equally divided between lecture and practical exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Building Services (4/75).

Outside Plant Engineering—Building Industry Consultant (4035)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 64 hours (2 weeks); residential.

Dates: January 1970—Present.

Objective: To provide the student with an understanding of building industry services.

Instruction: New building activity; blueprint reading; design of building's telephone requirements; raceways, floor closets, and main terminal rooms; multi-residential wiring. The course is composed of modules which build on knowledge and skills learned in previous modules. Appproximately three-quarters of the course is devoted to practical application of the material presented.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Blueprint Reading and Estimating (4/75).

1. Outside Plant Engineering—Exchange Feeder Route Analysis Program (4065)
2. Outside Plant Engineering—Feeder Route Analysis (4034)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 1. 32 hours (1 week); residential.
2. 32 hours (1 week); residential.

Dates: 1. January 1973—Present.
2. January 1973—Present.

Objective: To provide the student with the computer applications of feeder route planning and design.

Instruction: Preparation and analysis of specialized coding forms; remote data entry; analysis and decisions based on program output; route layout applications for feeder route design and relief. The course is composed of modules which build on knowledge and skills learned in previous modules. Approximately half of the class time is devoted to practical application of the material presented.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Computer Applications in Engineering Technology or Industrial Technology or Introductory Data Processing (4/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Outside Plant Engineering—Facilities (4068)

Location: Corporate Learning Center Engineering School, Hotel Thayer, West Point, NY.

Length: 80 hours (2 weeks); residential.

Dates: January 1973—Present.

Objective: To provide the student with the tools and methods to properly design and administer new and existing feeder and distribution facilities.

Instruction: Case study approach to the design of a telephone distribution system for a suburban community using both new and existing facilities.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Elementary Engineering Case Studies or Industrial Design (4/75).

Outside Plant Engineering—Feeder Route Analysis (4034)

Refer to Outside Plant Engineering—Exchange Feeder Route Analysis Program (4065).

Panel Apparatus

Refer to Panel Switching Systems.

Panel Selector Circuits

Refer to Panel Switching Systems.

Panel Senders and Decoders

Refer to Panel Switching Systems.

Panel Switching Systems

1. Panel Selector Circuits
2. Panel Senders and Decoders
3. Panel Apparatus

Location: New York and Queens, NY.

Length: 480 hours (12 weeks).

Dates: March 1965—Present.

Objective: To provide the student with the knowledge needed to analyze, troubleshoot, and maintain electromechanical and associated circuitry.

Instruction: General description, features, basic components, and equipment aspects of electromechanical relay and stepping switching systems; trouble recognition and repair techniques. A detailed study is made of block diagrams and schematics of typical switching systems. (Prerequisite: knowledge of basic electricity and circuit drawings.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Industrial (Electromechanical) Technology (4 lecture, 4 laboratory) (8/75). NOTE: Courses 1, 2, and 3 must all be completed in order to receive credit.

Programmed Training Course for Service Assistants (9012)

Location: Local telephone offices throughout New York State.

Length: 35 hours (7-10 days); individualized program.

Dates: April 1969—Present.

Objective: To enable the trainee to plan for, implement, evaluate, and conduct initial and remedial training on a one-to-one or two-to-one basis.

Instruction: Teaching methods; reinforcement theory; communication skills; planning and scheduling training; selection of corrective training; evaluation of students and providing feedback. Workbooks, programmed texts, role playing, and audio tapes are used. Instruction is provided in self-paced modular units.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Foundations of Supervision or Training Techniques or in the upper division baccalaureate category, 2 semester hours in Foundations of Supervision or Training Techniques (11/74).

Second Level Staff Administrative Training (10007)

Location: Overlook Lodge, Bear Mountain, NY; Holiday Inn, Orangeburg, NY.

Length: 32 hours (4-1/2 days); residential.

Dates: January 1973—Present.

Objective: To enable a manager to demonstrate on the job a measurable increase in acceptance of the basic accountability for meeting company needs, commitment to the achievement of the corporate goals, and skill in the management function which should create a stimulating climate for the subordinate staff.

Instruction: Management theories of Kostick, McGregor, and Maslow; motivation; time management; communications and language usage; operant management (positive reinforcement); appraisal interviews; analysis of Union Carbide and Western Company cases. Role playing, films, and classroom exercises are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Management (11/74).

Second Level Workshop (5030)

Location: Overlook Lodge, Bear Mountain, NY.

Length: 40 hours (1 week); residential.

Dates: October 1972—Present.

Objective: To assist middle-level managers in developing key managerial skills required to perform their jobs effectively.

Instruction: Advanced behavioral science theory workshop; combines theory inputs with gaming, simulations, role-playing exercises, case studies, and experience-based learning. The following areas are covered from a behavioral viewpoint: leadership; management styles; learning; motivation; communications; personnel development; team development. Considerable student participation, interaction, and self-assessment.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Applied Behavioral Sciences (3/74).

Service Analysis (9001)

Location: Traffic Management Training Center, 1790 Broadway, New York, NY.

Length: 40 hours (1 week); residential.

Dates: January 1964—Present.

Objective: To teach managers of operator services offices the technical, analytical, and managerial skills necessary to analyze service results and plan required training programs for subordinates.

Instruction: Development of analytical skills in measuring service performance; training in development of staff capability in service performance measurement; knowledge of traffic department objectives; errors and irregularities; index plan, management observations, and speed of answer index; uniformity index; proper handling of customer contacts. Role playing used in situations requiring judgment of staff performance.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Operations Management (3/74).

Station Repair (103)

Refer to Basic Installation—Suburban (102).

Supervisory Decisions, Actions and Growth (5002)

Location: 111 Livingston Street, Brooklyn, NY; 140 West Street, New York, NY; 20 Park Street, Albany, NY.

Length: 45 hours (1 week); residential.

Dates: June 1973—August 1975.

Objective: To assist lower level managers in developing key managerial skills required to perform their jobs effectively.

Instruction: Introductory behavioral science theory workshop. Decision making; leadership; motivations; group dynamics; self-awareness. Combines theory inputs with gaming, simulations, role-playing exercises, case studies, and experience-based learning.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Applied Behavioral Science (3/74).

Supervisory Responsibilities Workshop (8025)

Location: Corporate Learning Center, White Plains Hotel, White Plains, NY.

Length: 80 hours (2 weeks); residential.

Dates: September 1973—Present.

Objective: To increase the professional competence of first-level supervisors in human relations and the management process.

Instruction: Application of the management process, including planning, organizing, and controlling; communication skills; personnel and labor relations; transactional analysis. Lecture, discussion, case studies, role-play exercises, and small group projects are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Management Process (7/75).

Thirteen Week Pre-Management Training Course (9004)

Location: Traffic Management Training Center, 1790 Broadway, New York, NY.

Length: 455 hours (13 weeks); residential.

Dates: January 1964—Present.

Objective: To prepare potential managers to assume responsibilities of administering an operator-services office.

Instruction: An integrated program which was broken into three parts for purposes of evaluation. **Part 1:** General management functions (including development of plans); personnel management functions (hiring and interviewing, motivation training, performance appraisal, payroll implementation, industrial relations, and indoctrination of new employees). **Part 2:** Review of all phases of force management cost control; development of statistical techniques and managerial considerations in formulation of policies regarding workload forecasting and personnel planning; peg count procedures; long- and short-range force programs; development of efficiency measurements. **Part 3:** Development of analytical skills in measuring service performance; knowledge of traffic department objectives; errors and irregularities; index plan, management observations, and speed of answer index; uniformity index; proper handling of customer contacts. Role playing used in situations requiring judgment on staff performance.

Credit recommendation: **Part 1:** In the upper division baccalaureate category, 6 semester hours in General Management (3/74). **Part 2:** In the upper division baccalaureate category, 3 semester hours in Managerial Planning, Operations Management, or Work Force Management (3/74). **Part 3:** In the upper division baccalaureate category, 3 semester hours in Operations Management (3/74).

Trainer Workshop (5031)

Location: Overlook Lodge, Bear Mountain Inn, Bear Mountain, NY; Sheraton Eagle Bay Inn, Ossining, NY.

Length: 40 hours (1 week); residential.

Dates: October 1972—Present.

Objective: To improve the skill of corporate instructors, course designers, and training administrators in the art and science of helping adults learn.

Instruction: Establishing an appropriate climate for learning; facilitating the learning process; using a variety of methods of presentation; use of voice, language, and physical action; working with others in group settings; specifying personal plans for self-development.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Educational Methodology (3/74).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

The Port Authority of New York and New Jersey is an independent public agency responsible for developing and operating transportation and other facilities of commerce within the New York-New Jersey Metropolitan Area. The facilities include international airports, interstate tunnels and bridges, marine terminals, interstate bus terminals, motor union trucking terminals, and a rapid transit system between New York and New Jersey.

Opportunities for training and development are available in a variety of areas including executive management, clerical, operations, maintenance, and such specialized areas as police work and tolls collection. Formal courses and programs are developed by the Personnel Department's Career Development Division are are conducted by various departments within the company as well as by professionals from academic institutions and industry. In offering these programs, the Port Authority utilizes the module concept. Training modules are made up of two to five courses covering various phases of the same general subject or geared to different levels of experience. Background courses in a module may be taken in sequence or not, as the applicant chooses. Courses from different modules may also be taken.

Source of official student records: Manager, Career Development Division, The Port Authority of New York and New Jersey, One World Trade Center, Suite 62 South, New York, New York 10048.

Advanced Records Management

Location: One World Trade Center, New York, NY.

Length: 36 hours (4 weeks).

Dates: September 1971—Present.

Objective: To provide the student with the expertise to handle and process more complex records management transactions; to improve supervisory effectiveness.

Instruction: Classification and indexing; records retention and storage; work organization; audits; fundamentals of supervision. (Prerequisite: Fundamentals of Records Management.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration, Records Management, or Secretarial Science or in the upper division baccalaureate category, 2 semester hours in Business Education (9/75).

AUTOMOTIVE APPRENTICE TRAINING PROGRAM

The courses listed below constitute the Automotive Apprentice Training Program, which is designed to prepare entrance level personnel and high school recruits for employment within the Port Authority as automotive mechanics. Entrance level personnel include laborers, maintenance men, helpers, and clerical staff. Selection for the program is on the basis of performance in a competitive examination; applicants must also have high school diplomas. Once selected, trainees are required to participate in a four-year program, which includes approximately a two-year after-hours class and shop-related instruction program and a four-year on-the-job program, which run concurrently. If a trainee does not maintain a satisfactory rating in his work performance and instructional training at any time during this four-year period, he is dropped from the program.

Automotive Class and Shop Work

Location: Various Port Authority training facilities.

Length: 5854 hours (4 years); combined lecture and shop.

Dates: January 1965—Present.

Objective: To provide automotive apprentices with the knowledge and skills necessary to qualify as journeymen mechanics.

Instruction: Gasoline and diesel power plants; fuel systems; transmissions; electrical systems; basic machine shop and welding procedures; hydraulic and pneumatic systems; brakes; diagnosis and testing; routine vehicle maintenance and service.

Credit recommendation: In the lower division baccalaureate/associate degree category, 30 semester hours in Automotive Mechanics (9/75).

Basic Mathematics

Location: Various Port Authority training facilities.

Length: 72 hours (12 weeks).

Dates: January 1965—Present.

Objective: To provide a foundation in trade-related mathematics necessary for an automotive apprentice training program.

Instruction: Whole numbers; fractions; decimals; percentage; power and roots; ratio and proportion; solution of equations in one variable; mensuration; triangles. (Text used: *Basic Mathematics Simplified,* by C. Thomas Olivo.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Elementary Mathematics (9/75).

Basic Physics

Location: Various Port Authority training facilities.

Length: 72 hours (12 weeks).

Dates: January 1965—Present.

Objective: To provide a foundation in trade-related science for electrical and automotive apprentice training programs.

Instruction: Properties of matter; mechanics and machines; magnetism and electrical energy; heat energy and heat machines; light energy; sound energy; electronics; nuclear energy. (Text used: *Fundamentals of Applied Physics,* by C. Thomas Olivo and Alan Wayne.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Elementary Physics (9/75).

Blueprint and Automotive Drawing Interpretation

Location: Various Port Authority training facilities.

Length: 72 hours (12 weeks).

Dates: January 1965—Present.

Objective: To train automotive apprentices in blueprint reading, sketching, and automotive drawing interpretation.

Instruction: Basic blueprint reading; trade sketching; and interpretation of automotive assembly; drawings of such things as the engine assembly, cooling systems, the fuel system, and electrical systems. (Text used: *Automotive Drawing Interpretation,* by Louis E. Jensen.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Drawing and Blueprint Reading (9/75).

Case Problems in Organizational Behavior and Administration

Location: One World Trade Center, New York, NY.

Length: 30 hours (10 weeks).

Dates: January 1968—Present.

Objective: To broaden the participant's understanding of the managerial process both within and outside the corporate environment.

Instruction: Organizational structure; individual behavioral patterns; superior/subordinate relationships; group dynamics; the processes of communication, control, innovation, and change; the works of Weber, Maslow, Hertzberg, and McGregor. The course is divided between discussion of assigned readings, group analysis of case problems, and lecture presentation of theory and related research findings.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Organizational Behavior (4/75).

1. Case Problems in Systems Analysis
2. Management Orientation to Computers

Location: One World Trade Center, New York, N.Y

Length: 1. 12 hours.
2. 20 hours.

Dates: January 1971—Present.

Objective: To provide the student with an introduction to the basics of computers and computer systems and their application; to provide an introduction to the concepts of simulation and quantitative methods in systems analysis.

Instruction: Basic concepts of electronic data processing. Data representation and recording; computer equipment; how the computer is instructed to perform its task; how this tool can assist in problem solving and providing information; fundamental procedures used in computer systems analysis. Programming exercises in BASIC. Case studies, lecture, discussion, and laboratory/workshops are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business or Management Science (2/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

ELECTRICAL APPRENTICE TRAINING PROGRAM

The courses listed below constitute the Electrical Apprentice Training Program, which is designed to prepare entrance level personnel and high school recruits for employment within the Port Authority as journeymen electricians. Entrance level personnel include laborers, maintenance men, helpers, and clerical staff. Selection for the program is on the basis of performance in a competitive examination; applicants must also have high school diplomas. Once selected, trainees are required to participate in a four-year program, which includes 600 hours of after-hours class and shop-related instruction and an on-the-job program, which run concurrently. If a trainee does not maintain a satisfactory rating in his work performance and instructional training at any time during this four-year period, he is dropped from the program.

1. Advanced Electrical Theory
2. Alternating Current
3. Applied D.C. and A.C. Theory
4. Electrical Theory and Circuits
5. Industrial Electronic Controls

Location: Various Port Authority training facilities.

Length: Classroom Instruction—363 hours. Field Work—7680 hours.

Dates: January 1965—Present.

Objective: To provide apprentices with the knowledge and skills needed to qualify them as journeymen electricians.

Instruction: D.C. circuits; A.C. circuits; polyphase circuits; motors, generators, and transformers; motor and generator controls; rectifiers; basic amplifier concepts.

Credit recommendation: In the lower division baccalaureate/associate degree category, 14 semester hours (lecture) and 16 semester hours (shop) in Electrical Construction Maintenance (9/75). NOTE: Courses 1, 2, 3, 4, and 5, must all be completed in order to receive credit.

Alternating Current

Refer to Advanced Electrical Theory.

Applied D.C. and A.C. Theory

Refer to Advanced Electrical Theory.

Basic Mathematics

Location: Various Port Authority training facilities.

Length: 93 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide a foundation in trade-related mathematics necessary for electrical and watch engineer apprentice training programs.

Instruction: Whole numbers; fractions; decimals; percentage; power and roots; ratio and proportion; solution of equations in one variable; mensuration; triangles; slide rule. (Text used: *Basic Mathematics Simplified,* by C. Thomas Olivo.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Elementary Mathematics (9/75).

Basic Physics

Location: Various Port Authority training facilities.

Length: 72 hours (12 weeks).

Dates: January 1965—Present.

Objective: To provide a foundation in trade-related science for electrical and automotive apprentice training programs.

Instruction: Properties of matter; mechanics and machines; magnetism and electrical energy; heat energy and heat machines; light energy; sound

energy; electronics; nuclear energy. (Text used: *Fundamentals of Applied Physics*, by C. Thomas Olivo and Alan Wayne.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Elementary Physics (9/75).

Blueprint Reading and Sketching

Location: Various Port Authority training facilities.

Length: 72 hours (12 weeks).

Dates: January 1965—Present.

Objective: To train electrical apprentices in blueprint reading, sketching, and estimating, and in the application of the National Electric Code.

Instruction: Fundamentals of mechanical drafting; the National Electric Code symbols and nomenclature; reading, analyzing, and drawing of residential, commercial, and industrial wiring diagrams; electrical construction estimating.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electrical Blueprint Reading and Estimating (9/75).

Electrical Theory and Circuits

Refer to Advanced Electrical Theory.

Industrial Electronic Controls

Refer to Advanced Electrical Theory.

Fundamentals of Records Management

Location: One World Trade Center, New York, NY.

Length: 33 hours (3-1/2 weeks).

Dates: September 1971—Present.

Objective: To introduce the student to records systems.

Instruction: Filing procedures and systems; subject classifications; records retention; transfer and destruction of records; handling requests; follow-up procedures.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Business Administration, Records Management, or Secretarial Science or in the upper division baccalaureate category, 2 semester hours in Business Education (9/75).

High Tension Training Program

Location: LaGuardia Airport Training Center, New York, NY.

Length: 60 hours (12 weeks).

Dates: June 1966—Present.

Objective: To train electricians and electrical foremen as high tension system operators in order to assume on-site responsibility for the operation, maintenance, and fault diagnosis of high tension power distribution systems.

Instruction: Safety; safety and test equipment; control equipment; distribution systems; power systems and grounding theory; transformers; cables; system protection; low tension distribution systems; low tension equipment; typical equipment; fault diagnosis and record-keeping.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electrical Construction Maintenance or Electrical Power Distribution (9/75).

Leadership Communications Workshop

Location: Hotel Thayer, West Point, NY.

Length: 45 hours (5 days); residential.

Dates: January 1965—Present.

Objective: To develop the communications knowledge, attitudes, and skills necessary to achieve effective performance within an organizational structure.

Instruction: Methods of effective communication with supervisors, subordinates, and peers; understanding and resolving communications barriers; the importance of listening and utilizing feedback. The course includes a series of lectures, training exercises, readings, and laboratory activities which permit the student to evaluate new ideas and approaches to communications and receive feedback concerning the effectiveness of his/her communications skills.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Applied Behavioral Science (4/75).

1. Managerial Psychology
2. Motivation—Key to Productivity

Location: One World Trade Center, New York, NY.

Length: 1. 20 hours (10 weeks).
2. 18 hours (9 weeks).

Dates: 1. January 1973 – Present.
2. January 1968 – Present.

Objective: Course 1: To review the applications of basic principles of psychology to management situations. **Course 2:** To review current concepts of motivation and behavior as applied to the individual and the group in a work environment.

Instruction: Course 1: Industrial psychology; counseling and interviewing; motivation; learning and training; group dynamics; evaluation and appraisal. Course material is presented through lecture, discussion, role playing, films, and problem-solving exercises. **Course 2:** Principles of motivation; the self-motivated achiever; Herzberg's motivation-through-job-enrichment theory; McGregor's "Theory X – Theory Y"; human nature and organizational realities; management of human assets. The course consists of a series of films and seminar discussions.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Managerial Psychology (5/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Management Orientation to Computers

Refer to Case Problems in Systems Analysis.

1. Managerial Workshop
2. Tools, Skills, and Principles of Management

Location: One World Trade Center, New York, NY.

Length: 45 hours (8 weeks).

Dates: January 1974 – Present.

Objective: To identify and explore current management concepts and principles; to enable participants to become effective team members and leaders.

Instruction: The management function; the manager's job; planning; organizing; controlling; delegating responsibility and authority; the manager's responsibility for developing subordinates; standards and appraisal; communications and perceptions; motivation; patterns of leadership; the decision-making process. Using case problems, simulations, role playing, and skills exercises, participants apply the management tools of setting standards, communicating, motivating, directing, and decision making.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in General Management (4/75).

Motivation – Key to Productivity

Refer to Managerial Psychology.

Personnel Supervision

Location: One World Trade Center, New York, NY.

Length: 37-1/2 hours (15 weeks).

Dates: January 1965 – Present.

Objective: To increase managerial efficiency by providing an understanding of the principles of supervision.

Instruction: Selection and placement; training and personal development; employee attitudes; job performance; labor relations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Supervision 5/75).

POLICE RECRUIT TRAINING PROGRAM

The courses listed below make up the academic part of the Police Recruit Training Program conducted by the Port Authority Police Academy. This is an intensive twelve-week program in which all newly-appointed Port Authority police officers participate. All courses are conducted at the Police Academy which is located at One Path Plaza, Journal Square Transportation Center, Jersey City, New Jersey 07306.

Source of official student records: Manager, Career Development Division, The Port Authority of New York and New Jersey, One World Center, Suite 62 South, New York, New York 10048.

Accident Prevention, First Aid, and Safety Education

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 30 hours.

Dates: January 1967 – Present.

Objective: To provide the student with the theory and practice of first aid procedures.

Instruction: Theory and practice of first aid procedures in such situations as shock, wounds, strokes, and heart attacks; transportation of hazardous commodities; extrications from dangerous situations; radiation detection; principles of safety.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (12/74).

Criminal Law and Procedure

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 50 hours.

Dates: January 1967—Present.

Objective: To provide the student with an understanding of Criminal Procedure Law and Penal Law in New York and New Jersey and their application to daily police activities.

Instruction: Introduction to criminal law with special emphasis on the New York and New Jersey statutes. Use of affidavits; court appearances; the grand jury system. Lectures, workshops, and seminars are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Criminal Law (12/74).

Introduction to Law Enforcement

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 39 hours (10-20 additional hours of structured independent study).

Dates: January 1967—Present.

Objective: To acquaint students with the structure and organizational framework within which they will function in their role as public servants.

Instruction: Introduction to the criminal justice system and the role of police in that system, with special emphasis on the courts at federal, state, and local levels. Students complete a research project in some aspect of the judicial system and participate in lectures, laboratories, and class discussions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Law Enforcement (12/74).

Police and Community Problems

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 39 hours.

Dates: January 1967—Present.

Objective: To introduce the student to some of the dynamics of the police/community relationship.

Instruction: An examination of police and community relations from the police perspective. Development and adherence to a code of ethics; police work as a profession; prejudice as a deterrent to effective police/public contacts; officer/violator communications. Instruction includes lectures, class discussion, and workshops.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Police and Community Problems (12/74).

Social Psychology

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 37 hours.

Dates: January 1967—Present.

Objective: To introduce the student to the principles of human behavior in relation to police service.

Instruction: Personality; crisis intervention; conflict management; interpersonal communications; small group dynamics; adolescent behavior. Lectures, discussions, and laboratories are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Social Psychology (12/74).

Traffic Law and Procedure

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 52 hours.

Dates: January 1967—Present.

Objective: To provide the student with a practical working knowledge of traffic law and procedure in New York and New Jersey.

Instruction: A comprehensive study of New York and New Jersey traffic laws. Driving while intoxicated; Port Authority traffic law; traffic control/observation; defensive driving; traffic congestion (vehicle and pedestrian); police recruit motor patrol; leaving-the-scene violations; traffic restrictions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Traffic Law and Procedure (12/74).

Problem Analysis and Decision Making

Location: Harrison House, Glen Cove, NY; Hotel Thayer, West Point, NY; Molly Pitcher Hotel, Red Bank, NJ; Nassau Inn, Princeton, NJ.

Length: 45 hours (5 days); residential.

Dates: January 1965—Present.

Objective: To provide the student with the skills needed to identify, gather, and analyze relevant information in management situations requiring problem analysis, decision making, and control.

Instruction: A systematic, logical approach to identifying and processing information in three areas: analyzing a problem to determine its cause (problem analysis); making a sound decision after considering desired results, available resources, and potential adverse consequences (decision making); and successful implementation of a plan to effectively deal with the problem (control). Students work as teams to handle case problems and in-basket exercises to develop an understanding of the concepts of logical thinking in the analysis of current management problems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in General Management (4/75).

Psychology—Understanding Human Behavior I

Location: One World Trade Center, New York, NY.

Length: 37-1/2 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide an introduction to psychological principles.

Instruction: Heredity and environment; motivation; emotions; individual differences; learning theory and perception; social behavior.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Psychology (5/75).

Sergeants' Pre-Promotional Supervisory Training Course

Location: One Path Plaza, Journal Square Transportation Center, Jersey City, NJ.

Length: 37 hours (2 weeks).

Dates: January 1967—Present.

Objective: To provide the student with basic supervisory principles and techniques.

Instruction: First-line supervisory training. Administrative procedures; supervision; leadership; effective communication; the management functions (planning, organizing, directing, controlling) as carried out by the supervisor. Workshops, lectures, and seminars are used.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Principles of Supervision (12/74).

Stenographic Skills (100 WPM)

Location: One World Trade Center, New York, NY.

Length: 20 hours (5 weeks).

Dates: January 1971—Present.

Objective: To increase the student's stenographic speed from 80 to 100 words per minute.

Instruction: Students are pre and post tested to determine individual proficiency. Dictation is given throughout the course for instructor information and student feedback. No theory instruction is included.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Secretarial Science (9/75).

Stenographic Skills (120 WPM)

Location: One World Trade Center, New York, NY.

Length: 20 hours (5 weeks).

Dates: January 1971—Present.

Objective: To increase the student's stenographic speed from 100 to 120 words per minute.

Instruction: Students are pre- and post-tested to determine individual proficiency. Dictation is given throughout the course for instructor information and student feedback. No theory instruction is included.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Secretarial Science (9/75).

The Managerial Grid

Location: Harrison House, Glen Cove, NY.

Length: 60 hours (5-1/2 days); residential.

Dates: January 1968—Present.

Objective: To make the student a more effective manager by understanding and analyzing the effect of various managerial styles, receiving feedback on his/her managerial style, and experimenting with different managerial styles.

Instruction: Students are pre- and post-tested to of dominant and backup managerial styles; use of critique in building team effectiveness; organizational culture concepts; causes and resolutions of organizational conflict; study of personal grid styles. Through the use of case problems, role playing, team critiques, and team problem solving, participants are able to analyze their effectiveness as individuals and as part of a problem-solving team.

Credit recommendation: In the graduate degree category, 2 semester hours in Behavioral Aspects of Management (4/75).

The Supervisor's Job

Location: Hotel Thayer, West Point, NY.

Length: 45 hours (5 days); residential.

Dates: January 1965—Present.

Objective: To provide the participant with an understanding of the manager's role in an organization; to provide him/her with a background of basic principles of efficient business management.

Instruction: The supervisor's job; organizational theory; roles and role conflict; behavior and attitudes; motivation and morale; patterns of leadership; delegation of responsibility and authority; interpersonal and intergroup relationships; conflict resolutions; consensual decisions; effective group action. Course objectives are realized through a series of selected readings, lectures, discussions, and job-related simulation and role-playing exercises.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Behavioral Aspects of Management (4/75).

Tools, Skills, and Principles of Management

Refer to Managerial Workshop.

Typing Skills Training

Location: One World Trade Center, New York, NY.

Length: 20 hours (5 weeks).

Dates: January 1971—Present.

Objective: To upgrade the student's typing speed from 40 to 50 words per minute.

Instruction: Students are pre- and post-tested to determine individual proficiency. Timed writings are used throughout the course for instructor information and student feedback. No keyboard instruction is given.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Secretarial Science (9/75).

WATCH ENGINEER APPRENTICE TRAINING PROGRAM

The courses listed below constitute the Watch Engineer Apprentice Training Program, which is designed to prepare entrance level personnel and high school recruits for employment within the Port Authority as watch engineers. Entrance level personnel include laborers, building and ground attendants, maintenance men, helpers, and clerical staff with some prior knowledge of the mechanical trades. Selection for the program is on the basis of performance in a competitive examination: applicants must also have high school diplomas. Once selected, trainees are required to participate in a four-year program consisting of on-the-job training at various facilities and 175 three-hour evening classroom sessions. If a trainee does not maintain a satisfactory rating in his work performance and instructional training at any time during this four-year period, he is dropped from the program.

1. Air Pollution and Smoke Control
2. Boilers and Accessories
3. Engines

Location: Various Port Authority training facilities.

Length: 1. 24 hours.
2. 60 hours.
3. 30 hours.

Dates: January 1965—Present.

Objective: To provide an introduction to boilers, air pollution, smoke control, and steam engines necessary to train an apprentice as a journeyman watch or stationary engineer.

Instruction: Boiler construction and code; combustion of fuels; operation and maintenance of boilers; accessories; air pollution and smoke control; steam engines; steam turbines; and auxiliary equipment.

Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Heating, Air Conditioning, and Refrigeration, Marine Engineering, or Stationary Engineering (9/75). NOTE: Courses 1, 2, and 3 must all be completed in order to receive credit.

Automatic Controls

Location: Various Port Authority training facilities.

Length: 33 hours (5 weeks).

Dates: January 1965—Present.

Objective: To provide the basic knowledge required to understand the control of heating, air conditioning, and refrigeration systems.

Instruction: Fundamentals of controls and measurement; electric control circuits; and pneumatic control circuits.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Heating, Air Conditioning, and Refrigeration (9/75).

Basic Electricity

Location: Various Port Authority training facilities.

Length: 72 hours (12 weeks).

Dates: January 1965—Present.

Objective: To provide the electrical background necessary for the watch engineer journeyman to understand and maintain electrical equipment within the mechanical trades.

Instruction: A survey course covering the following topics: Ohms Law; series, parallel, and series-parallel circuits; power; magnetism; generators; motors; controls.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Basic Electricity (9/75).

Basic Mathematics

Location: Various Port Authority training facilities.

Length: 93 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide a foundation in trade-related mathematics necessary for electrical and watch engineer apprentice training programs.

Instruction: Whole numbers; fractions; decimals, percentage; power and roots; ratio and proportion; solution of equations in one variable; mensuration; triangles; slide rule. (Text used: *Basic Mathematics Simplified,* by C. Thomas Olivo.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Elementary Mathematics (9/75).

Basic Physics

Location: Various Port Authority training facilities.

Length: 90 hours (15 weeks).

Dates: January 1965—Present.

Objective: To provide a foundation in trade-related science for the watch engineer apprentice training program.

Instruction: Properties of matter; mechanics and machines; magnetism and electrical energy; heat energy and heat machines; light energy; sound energy; electronics; nuclear energy. (Text used: *Fundamentals of Applied Physics,* by C. Thomas Olivo and Alan Wayne.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Elementary Physics (9/75).

1. Basic Refrigeration and Air Conditioning
2. Central Station Refrigeration Machines

Location: Various Port Authority training facilities.

Length: 1. 81 hours.
2. 15 hours.

Dates: January 1965—Present.

Objective: To provide the basic skills necessary in refrigeration and air conditioning to prepare an apprentice as a journeyman watch or stationary engineer.

Instruction: The refrigeration cycle; refrigerants; compressors; condesnsers; receivers; evaporators; metering devices; lubrication; psychrometrics; and central station refrigeration machines.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Refrigeration and Air Conditioning (9/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Blueprint Reading and Sketching

Location: Various Port Authority training facilities.

Length: 30 hours.

Dates: January 1965—Present.

Objective: To provide students with the fundamental skills necessary for the reading of blueprints.

Instruction: Lines and line quality; Three View drawings; sectional views; orthographic sketching; working with blueprints; and analyzing blueprints with an emphasis on HVAC and plumbing.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Blueprint Reading (9/75).

Boilers and Accessories

Refer to Air Pollution and Smoke Control.

Central Station Refrigeration Machines

Refer to Basic Refrigeration and Air Conditioning.

Engines

Refer to Air Pollution and Smoke Control.

Shop and Field Work

Location: Various Port Authority training facilities.

Length: 7328 hours (4 years).

Dates: January 1965—Present.

Objective: To provide the watch engineer apprentice with the on-the-job shop and field work necessary to become a journeyman watch or stationary engineer.

Instruction: Plant safety; use of hand tools; heating and ventilating; boilers; fuels; power plant auxiliaries; steam engines; steam and gas turbines; controls; instrumentation; pumps; valves; water supply; sanitation; and fire protection.

Credit recommendation: In the lower division baccalaureate/associate degree category, 16 semester hours in Shop, Heating, Air Conditioning, and Refrigeration, or Stationary Engineering (9/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

SPERRY DIVISION OF SPERRY RAND CORPORATION

The headquarters of the Sperry Division, which is located in Great Neck, New York, consists of Sperry Gyroscope, Sperry Marine Systems, and Sperry Systems Management. The division has a long history of producing high-technology products for ship navigation, guidance, and control and has branched into new areas of technology application, primarily computer-based traffic control and transportation systems.

Sperry's Program for Advancing Careers through Education (SPACE) is a voluntary, after-hours program available to all Great Neck employees. The program offers an extensive series of engineering and computer science courses as well as courses in management and general skills improvement.

Source of official student records: Management Development and Training Department, Sperry Division, Sperry Rand Corporation, Great Neck, New York 11020.

Advanced Control System Theory (T-602-1)

Location: Division Headquarters, Great Neck, NY.

Length: 30 hours (15 weeks).

Dates: January 1974—Present.

Objective: To provide an introduction to selected topics in advanced control systems theory.

Instruction: Theoretical and practical aspects of selected topics in advanced control systems theory. Adaptive control systems (disturbances and parameter variations caused by the environment); statistical design of feedback control systems (statistical analysis of control systems in the presence of noise sources); sampled-data control systems (extension of conventional continuous control system techniques to sampled-data systems utilizing the z-transform); human transfer functions (linear, nonlinear, sampled-data, and adaptive representations and uses); modeling utilizing time series theory (methods for determining transfer functions from actual input/output data.)

Credit recommendation: In the graduate degree category, 2 semester hours in Engineering (5/75).

Architecture of General Purpose Digital Computers (T-810-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1971—Present.

Objective: To provide the student with an understanding of the foundations of computer architecture.

Instruction: Single address computers of the Princeton class; Bus structured architecture; micro programmable machines; microprocessors; distributed processing networks.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Computer Science (5/75).

DMS 1100 Data Base Application and Implementation I & II (T-812-1 & 2)

Location: Division Headquarters, Great Neck, NY.

Length: 60 hours (30 weeks).

Dates: September 1974—Present.

Objective: To provide the concepts and applications involved in implementing a data base (DMS 1100) on a large-scale computer (Univac 1108).

Instruction: Concepts of data base implementation and compatible functions; detailed technical discussion of the methods used to program and use an integrated data base with DMS 1100.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 4 semester hours in Computer Science (5/75).

Exec 8 Operating System I & II (T-806-1 & 2)

Location: Division Headquarters, Great Neck, NY.

Length: 60 hours (30 weeks).

Dates: September 1971—Present.

Objective: To provide the student with a knowledge of the Univac 1108 Computer running under the Exec 8 Operating System.

Instruction: Mass storage file administration and control; run stream control; language processors; program construction and execution; data file manipulation; program diagnostic analysis.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 4 semester hours in Computer Science (5/75).

Fundamentals of Digital Computers (I-801-1)

Location: Division Headquarters, Great Neck, NY.

Length: 30 hours (15 weeks).

Dates: September 1970—Present.

Objective: To provide a survey of the structure, functions, and basic applications of a general-purpose computer.

Instruction: An introductory level course offering instruction in the general use of general-purpose computers and their associated peripheral devices.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Data Processing (5/75).

Industrial Psychology (M-413-1)

Location: Division Headquarters, Great Neck, NY.

Length: 30 hours (15 weeks).

Dates: January 1972—Present.

Objective: To familiarize the student with the basic concepts of interpersonal relationships and behavior.

Instruction: The application of interpersonal behavior concepts to communication and behavior changes within an industrial environment. Learning; motivation; emotion; perception; communication process; barriers to communication.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Industrial Psychology (5/75).

Introduction to Kalman Filtering Theory (T-108-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1973—Present.

Objective: To provide an introduction to optimal filter and control theory and their application.

Instruction: The basic theoretical concepts of linear regression and least squares. Review of underlying mathematical techniques; theory of optimal estimation (recursive filters, discrete and continuous Kalman filters); practical Kalman filter considerations (suboptimal filters, sensitivity analysis, computer restraints); optimal smoothing and nonlinear estimation.

Credit recommendation: In the graduate degree category, 2 semester hours in Applied Mathematics or Engineering (5/75).

Modern Control Theory and Application I & II (T-601-1 & 2)

Location: Division Headquarters, Great Neck, NY.

Length: 60 hours (30 weeks).

Dates: September 1972—Present.

Objective: To provide an introduction to control system theory using both transfer function and state-variable approaches; to illustrate applications to control problems in a wide variety of fields.

Instruction: The state-variable concept; state-variable signal-flow diagrams; state-equations; the transition matrix; transfer functions; performance criteria; techniques for determining control system stability; design of linear control systems; linear-state-variable feedback; linear modeling using time series theory; design of nonlinear control systems; discussion of topics of recent importance (dynamic programming, the maximum principle, Liapunov's stability criterion, Popov's method, and the circle criterion). Linear, nonlinear, and optimal control theory are presented from the viewpoint of the modern state-variable approach and compared with the classical transfer function approach. The development of theoretical topics is coupled with applications of the theory to engineering design and includes digital computer problems.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Engineering (5/75).

Modern Methods in Computer Programming—Structured Programming (T-809-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1974—Present.

Objective: To provide the programmer with a systematic approach to program development through structured programming techniques.

Instruction: Present philosophy in structured programming. Problems encountered in the development of large systems; current techniques and solutions; proposed new methods of programming.

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Computer Science (5/75).

Principles and Techniques of Marine Inertial Navigation (T-504-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1974—Present.

Objective: To provide engineers with a fundamental background in marine inertial navigation theory.

Instruction: Introduction to basic principles and techniques of inertial navigation. Accelerometers and gyroscopes (theory, operating principles, dynamic behavior, error sources); coordinate frames and gimbal platforms; kinematics, dynamics, and associated error equations of instrumented gyro vertical, gyrocompass, and inertial navigator. A canonical error model is developed for a marine inertial navigation system.

Credit recommendation: In the graduate degree category, 2 semester hours in Engineering (5/75).

Principles of Traffic Control (T-607-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1968—Present.

Objective: To provide the student with the theoretical and practical aspects of traffic control.

Instruction: Fundamentals of traffic flow; signal timing; computerized signal systems; freeway traffic control; bus priority; rapid transit systems.

Credit recommendation: In the graduate degree-category, 2 semester hours in Engineering (5/75).

Probability and Statistics I & II (T-103-1 & 2)

Location: Division Headquarters, Great Neck, NY.

Length: 60 hours (30 weeks).

Dates: January 1965—Present.

Objective: To provide an introduction to the theory of probability and statistics.

Instruction: Combinations and permutations; probability; random variables; discrete and continuous distributions; moment generating functions; binomial, Poisson, and normal distributions; central limit theorem; sampling distributions; testing hypothesis; use of Chi-square, F, and Student's T distributions; point and interval estimation; regression and correlation.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 3 semester hours in Mathematics (5/75).

Selected Topics in Transportation Systems Analysis (T-608-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: January 1974—Present.

Objective: To provide a knowledge of the application of system analysis, modeling, and simulation techniques to the design and development of large-scale traffic and transportation systems.

Instruction: System engineering techniques and applications suitable for the design and analysis of large-scale transportation and traffic systems (system modeling and identification, queuing theory, system simulation). Freeway surveillance and control; control of traffic corridors; incident detection; simulation of freeway corridor systems; approaches applicable to the modeling of traffic flow; currently available computer programs which implement the techniques.

Credit recommendation: In the graduate degree category, 2 semester hours in Engineering (5/75).

Selection and Programming of Minicomputers (T-706-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1969—Present.

Objective: To provide an introduction to minicomputers and their application to system needs.

Instruction: Fixed-point versus floating point arithmetic index registers; cyclic and random access memory systems; microprogramming and simulation of the candidate computer on a large scale general purpose machine; the need for peripheral support equipment and supporting software. The interrelationship of the programming task with the computer parameters of word length, memory, instruction repertoire, speed, and input/output is developed through the demonstration of actual problems.

Credit recommendation: In the graduate degree category, 2 semester hours in Engineering (5/75).

Sonar System Seminar (T-403-1)

Location: Division Headquarters, Great Neck, NY.

Length: 30 hours (15 weeks).

Dates: September 1973—Present.

Objective: To provide the student with an understanding of the various functions performed by a sonar system and the hardware approaches for implementing them.

Instruction: Design techniques used in sonar systems; components of a modern digital sonar system; computer technology as applied to sonar; the UYK-7, UYK-20, SP630, and SP900; sonar beamforming and its implementation by various methods (analog delay line, shift register—SIMUS, digital computer, high-speed microprogrammable processor). Lectures are presented by specialists in each field.

Credit recommendation: In the graduate degree category, 2 semester hours in Engineering or Marine Science (5/75).

Sperry Supervisory Training Program (M-412-1)

Location: Division Headquarters, Great Neck, NY.

Length: 24 hours (12 weeks).

Dates: September 1970—Present.

Objective: To provide formal and informal training and experiences in the major areas of supervisory skills.

Instruction: Basic supervisory training. The supervisor and his management job; communication; problem solving; motivation; leadership styles; planning; organizing; controlling; developmental coaching; interviewing; handling complaints and grievances.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Supervisory Management (5/75).

Supervisory Counseling and Communication Techniques (M-414-1)

Location: Division Headquarters, Great Neck, NY.

Length: 30 hours (15 weeks).

Dates: September 1972—Present.

Objective: To improve the personal communication skills of supervisors and managers.

Instruction: Interpersonal relations and the importance of relationships between supervisors and employees. Principles, techniques, and styles of counseling; the communication process; barriers to communication; improving and understanding the functions of communication in business. Workshop seminar with emphasis on participation and involvement through the use of selected case studies.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Communications (5/75).

Test Design and Data Evaluation (T-609-1)

Location: Division Headquarters, Great Neck, NY.

Length: 31 hours (15 weeks).

Dates: September 1974—Present.

Objective: To provide a knowledge of the application of statistical methods to the design of tests and the evaluation of experimental results.

Instruction: Presentation of basic tools for designing tests and evaluating experimental results. Hypothesis testing; general regression model; computational methods; least squares; factorial design; interactive effects; covariance analysis. The presentation of theory emphasizes its use in drawing conclusions for real situations.

Credit recommendation: In the graduate degree category, 2 semester hours in Engineering (5/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

SUFFOLK COUNTY POLICE DEPARTMENT

The Suffolk County Police Department serves a population of 1-1/3 million people in the easternmost county on Long Island, New York. The Department employs 3,200 persons, and its headquarters is located in Hauppauge.

RECRUIT TRAINING PROGRAM

The courses listed below make up the academic component of the Recruit Training Program conducted by the Suffolk County Police Department. This is an intensive 20-week program attended by all newly appointed officers of the Department. Personnel from surrounding townships and government agencies in the county also participate as students in the program.

All courses are taught by use of lecture and discussion, and role playing is used where appropriate. The courses are taught at the Suffolk County Police Academy in Westhampton.

Source of official student records: Director, Suffolk County Police Academy, Old Country Road, Westhampton, New York 11977.

Criminal Investigation

Length: 53 hours.

Dates: December 1974—Present.

Objective: To acquaint the student with the basic principles of criminal investigation.

Instruction: A study of the skills and techniques necessary for conducting sound police investigations. Interviews and interrogations; identification and preservation of physical evidence; narcotics observation and informants; organized crime; those criminal activities requiring specialized investigatory procedures. The students apply the course topics in both the moot court setting and other role-play situations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Justice (5/75).

Criminal Law and Procedure

Length: 98 hours.

Dates: December 1974—Present.

Objective: To provide the student with an understanding of the basic elements of criminal law and procedure.

Instruction: Constitutional law; all aspects of New York State criminal law; court structure; search and seizure; elements of arrest; use of force and discretion; probation/parole.

Credit recommendation: In the lower division baccalaureate/associate degree category, 6 semester hours in Criminal Justice (5/75).

Patrol Procedures

Length: 55 hours.

Dates: December 1974—Present.

Objective: To acquaint the student with the multidimensional aspects of basic patrol procedures.

Instruction: An examination of patrol duties. Vehicle and traffic law; accident investigation; auto theft; civil disorders and riot control; public utilities problems; other situations faced by the patrol officer. Role-playing is extensively used to simulate real-life situations which the officer may confront.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Justice (5/75).

Physical Education

Part 1: Developmental Activities

Part 2: First Aid

Part 3: Self Defense

Length: 145 hours; *Part 1:* 40 hours. *Part 2:* 45 hours. *Part 3:* 60 hours.

Dates: December 1974—Present.

Objective: To prepare the student for the physical and physiological demands involved in the work of a police officer.

Instruction: Part 1: Improving and maintaining physical fitness through exercises, conditioning activities, and competitive sports. Individual evaluation of various aspects of physical performance. **Part 2:** Theory and application of first-aid procedures in emergency situations; instruction in cardio-pulmonary resuscitation. **Part 3:** Theory and application of basic techniques and maneuvers incorporated in boxing, judo, aikido, and karate; emphasis on the application of defensive skills to combative situations.

Credit recommendation: Part 1: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Physical Education (5/75). **Part 2:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (5/75). **Part 3:** In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Physical Education (5/75).

Police Community Relations

Length: 64 hours.

Dates: December 1974—Present.

Objective: To introduce the student to some of the dynamics of the community so that he/she will be able to perform more effectively as a police officer.

Instruction: Practical applications of social science theory; black history; Spanish culture; family crisis intervention; ethical awareness; mentally disturbed persons; officer-violator relationship; an orientation to available social services. Role playing is used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Justice (5/75).

Additional information on these courses may be obtained from:

Office on Noncollegiate Sponsored Instruction
New York State Education Department

TRANS WORLD AIRLINES, INC.

Trans World Airlines, Inc. (TWA) provides a wide range of training for its own employees (including pilots, cabin attendants, ticket and reservation personnel), and for employees of approved Air Traffic Conference and International Air Transport Association Travel Agencies.

Courses are offered at the Breech Training Academy, a residential training center in Overland Park, Kansas, and at locations throughout the country. The courses listed below, offered to employees of approved travel agencies, constitute the technical and marketing curricula currently offered.

Source of official student records: Office of the Manager-Agency Training, Breech Training Academy, P.O. Box 797, Overland Park, Kansas 66201.

Advanced Agency Product Knowledge (201)

Location: TWA, Breech Academy, Overland Park, KS.

Length: 47 hours (5 days); residential.

Dates: January 1971—Present.

Objective: To introduce the intermediate travel agency trainee to advanced principles and techniques in arranging domestic and international air transportation.

Instruction: Covers International Air Transport Association (IATA) and Air Traffic Conference (ATC) ticketing regulations and the procedures for preparing miscellaneous charges orders, tour orders and tour tickets, air tour and air/sea bookings, international air travel documentation, and use of hotel guides. Instructional methodology emphasizes practical exercises and participation in small groups.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Travel (7/75).

Agency Sales and Market Development (202)

Location: TWA, Breech Academy, Overland Park, KS.

Length: 44 hours (5 days); residential.

Dates: January 1971—Present.

Objective: To educate the student in sales and market development as applied to the travel industry.

Instruction: Covers identification of market segments, the sales function and sales techniques, and commercial account, group and incentive market development. Instructional methodology includes case studies, video-taped role play, group projects, and audio-visual aids.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Marketing, Sales, or Travel or in the upper division baccalaureate category, 1 semester hour in Marketing, Sales, or Travel (7/75).

Air Tariff-International (204)

Location: TWA, Breech Academy, Overland Park, KS.

Length: 46 hours (5 days); residential.

Dates: November 1971—Present.

Objective: To teach the travel agent the principles and techniques of international air tariffs and ticketing.

Instruction: Covers fare construction rules, tariff areas and definitions, mileage and route map systems for group, normal and special fares, and applicable transportation taxes. Employs International Air Transport Association (IATA) ticketing handbook, *Air Tariff*, Government tax charts, and other references including the atlas. Instructional methodology emphasizes practical exercises with individualized instruction, supervision, and assistance.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Travel (7/75).

Basic Agency Product Knowledge (200)

Location: TWA Breech Academy, Overland Park, KS.

Length: 45 hours (5 days); residential.

Dates: October 1973—Present.

Objective: To teach the travel agent trainee the basic principles and techniques related to the airline segment of the travel-agency field.

Instruction: Covers use of basic tools essential to accurate domestic and international airline ticketing. Stresses practice in itinerary planning, constructing domestic fares, applying taxes, and preparing tickets. Includes the use of the Official Airline Guide and Travel Planner. Also covers arranging car rentals. Instructional methodology emphasizes practical exercises and participation in small groups.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Travel (7/75).

Additional information on these courses may be obtained from:
Project on Noncollegiate Sponsored Instruction
American Council on Education

UNITED STATES DEPARTMENT OF AGRICULTURE GRADUATE SCHOOL

The United States Department of Agriculture (USDA) Graduate School is a private, non-profit institution administered by a Board appointed by the Secretary of the Department of Agriculture. It was originally established in 1862 to disseminate agricultural information, but today its primary purpose is to help improve the services rendered by government agencies by providing a range of educational opportunities primarily to government employees. There are various programs available to the students: the Evening Program, the Career Planning and Development Program, the Independent Study Program, the International Program, and the Special Programs.

Instruction is offered in a wide variety of subjects including accounting, computer science, foreign languages, management, mathematics, social and behavioral sciences, and photography. Students choose courses to meet specific needs, which include up-dating skills, advancing in the job, preparing for a different field of employment, and fulfilling personal goals.

Source of official student records: Office of the Registrar, Graduate School USDA, 14th and Independence Avenue, S.W., Washington, D.C. 20250.

Advanced Accounting (E6420)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To teach the student to apply advanced principles of accounting to specific problems.

Instruction: Topics include: consolidated statements, foreign exchange, receivership, estates and trusts, and public accounts. Emphasis on problems in accounting theory and practice as generally given in Certified Professional Accountant examinations. (Prerequisite: Intermediate Accounting or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Accounting (2/75).

American National Government (E6341)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To provide an understanding of the origins of the Federal government.

Instruction: History and origins of national government of the United States. Topics include: political process, parties and elections, legislative process, functions of national government and their administration, courts and judicial reviews of legislation.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Government or Political Science (2/75).

Analytic Geometry (E3105)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To provide students with a knowledge of analytical geometry needed for calculus.

Instruction: Fundamental concepts and formulas; line, circle, parabola, ellipse, hyperbola; transformation of coordinates; parametric equations; the second and higher degree equation in rectangular coordinates; graphic solution of equations.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Analytical Geometry (2/75).

Applications of Management Theories (E6493)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1974—Present.

Objective: To provide the student with knowledge of schools of management thought with emphasis on applying these theories to practical situations.

Instruction: History of management thought; the behavioral scientists (McGregor, Argyris, Herzberg, and McClelland); modern theorists and experimenters. Emphasis is on applying these theories in practical situations and conceptualizing one's own management theory.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (2/75).

Applications of Techniques of Management Analysis (E6476)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 40 hours (10 weeks).

Dates: September 1973—Present.

Objective: To develop an understanding of the application of a variety of analytical techniques, both traditional and modern, to management problems and strategies, with emphasis on applying the systems approach.

Instruction: Application of problem-solving techniques to management problems. Techniques of conducting management surveys. Designed for beginning management analyst, manager, and supervisor desiring a refresher course. (Prerequisite: Principles and Techniques of Management Analysis, equivalent experience, or permission of the instructor.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (2/75).

Calculus (E3206)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1974—Present.

Objective: To provide students with a knowledge of differential and integral calculus including differential equations.

Instruction: First quarter: Variables, functions, limits, continuity, derivatives; applications of the derivative to geometry and physics; maxima and minima; differentials; mean value theorem; simple integration and applications to geometry and physics; radius and circle of curvature; vectors; hyperbolic functions; partial derivatives. **Second quarter:** Standard integral forms; special methods of integration; approximate methods of integration; improper integrals; indeterminate forms; series; expansion of functions; multiple integrals; introduction to differential equations. **Third quarter:** Continuation of differential equations. (Prerequisites: College Algebra, Trigonometry, and Analytic Geometry.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 8 semester hours in Calculus (2/75). NOTE: For completion of either or both first and second quarter, proportionally lower credit is recommended.

Cost Accounting (E6642)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970—Present.

Objective: To provide the student with an understanding of cost accounting as a highly developed quantitative device for helping managers select and reach their objectives.

Instruction: Principles of cost accounting, together with methods of application to specific problems. Consideration of methods of cost accounting for materials, labor, direct and indirect expenses in relation to specific job orders. Process, departmental, and standard costs; control accounts. (Prerequisite: Principles of Accounting.)

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in Accounting (2/75).

Counseling Techniques I (E7545)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1971—Present.

Objective: To explore those areas of counseling practices helpful to individuals in teaching, personnel, industrial management, and counseling.

Instruction: Survey of theoretical and practical aspects of guidance and counseling techniques; understanding strengths and limitations; basic tech-

niques utilized in problem situations, which are indicated in order to achieve anticipated goals. Assistance in development of counseling skills as one meets behavioral patterns in teaching, business, family, and personnel management. Discussion of major findings in theory and processes of counseling. Demonstrations through case presentations and their practical application to behavioral problems. Psychodynamics of human behavior relating to specific case material and particular techniques used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education, General Management, Guidance Counseling, or Personnel Administration (2/75).

Counseling Techniques II (E7597)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1971—Present.

Objective: To provide an in-depth discussion of specific counseling techniques in counseling situations and problem areas.

Instruction: Specialized review of communication processes occurring in singular sessions of counseling. Interpretations and meaning of nonverbal and verbal communications; significance of counseling material during continuing interviews; developing proficiency and skill in techniques of interview; methods of interview. Individual case studies are presented by students in order to understand thoroughly pertinent basic problem areas and their resolution. Supervisory instruction for understanding the dynamics of counselees' problems. Individual and group therapeutic processes stressed. Counselor and client communications with anticipated counseling expectancies and goals.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Education, General Management, Guidance Counseling, or Personnel Administration (2/75).

Employee Training and Development (E6518)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1973—Present.

Objective: To enable students to understand and apply a systems approach to training and development.

Instruction: Basics of adult learning; analyzing performance problems in training; task analysis as a training technique; preparing objectives and criterion tests; designing and developing training programs; methods of instruction and the role of the instructor, coach, and supervisor; use of feedback to implement and maintain a training system. Lecture, discussion, programmed instruction, field research, journal reports, and tests are used.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Industrial Relations or Personnel (9/75).

Employment and Placement (E6512)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To familiarize the student with Federal government employment and placement policies and procedures.

Instruction: Staffing in Federal service; manpower picture; manpower planning and utilization; qualification standards; recruitment; examining; selection and appointment; promotion and other placement actions; special interest employment areas. Lecture, discussion, and tests are used.

Credit recommendation: In the vocational certificate category, 2 semester hours in Personnel (9/75).

Federal Budgeting Procedure: Execution and Fund Control (E4118)

Refer to Federal Budgeting Procedure: Formulation and Presentation (E4116).

1. Federal Budgeting Procedure: Formulation and Presentation (E4116)
2. Federal Budgeting Procedure: Execution and Fund Control (E4118)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 1. 30 hours (10 weeks).
2. 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To introduce the student to the techniques of Federal budget estimation, formulation, review and presentation to higher authority, plus budget execution and control.

Instruction: Basic legal and institutional framework; concepts, procedures, and practices involved in preparation of budget estimates, justifications and

supplementary materials. Preparation of budget estimate for hypothetical government agency. Systems of administrative control under the Antideficiency Act; allotments; apportionments; review of progress in relation to financial plans; related reports; other aspects of budgetary control over appropriations and funds. Problems and discussion illustrating various steps of budget execution process at bureau or small agency level, and review of basic laws, regulations, concepts, and terminology involved. (Prerequisite: familiarity with basic concepts and terminology used in fiscal, accounting, or other financial operations of the Federal government.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting or Public Administration (2/75). NOTE: Courses 1 and 2 must both be completed in order to receive credit.

Federal Fiscal Procedure (E4112)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970—Present.

Objective: To familiarize the student with Federal fiscal practices.

Instruction: A survey of basic fiscal and accounting laws and rules and regulations of the Federal Government and their application to specific fiscal activities. Covers various types of fiscal operations, including use and processing of accounting and fiscal forms, disbursements and collections, and related records and reporting. **First quarter:** General background of laws and regulations; symbolization of accounts; processing of payrolls; handling of leave, retirement, tax, and bonds; administrative examination of travel and transportation payments. **Second quarter:** Continuation of study of basic laws, rules and regulations covering fiscal and accounting activities, with emphasis on procedures involving disbursements for supplies, equipment, utilities, and other items; use of imprest funds and agent cashiers; effecting adjustments for errors; handling claims and uncollectible debts; responsibilities of certifying officers. Lectures, discussion, and quizzes are used.

Credit recommendation: In the vocational certificate category, 1 semester hour in Governmental Administration for each quarter (9/75).

Federal Government Accounting (E6264)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970—Present.

Objective: To provide the student with a basic knowledge of governmental accounting.

Instruction: First quarter: Concepts and methods of fund control systems; practice with basic records-obligations control; cash disbursements; object classes; general ledgers; cost ledgers. Accounting for funding processes; appropriation; apportionments; allotments; obligations; disbursements; reimbursements; transfer appropriations; accounts-consolidated working fund advances. **Second quarter:** Inventory and property accounting; reimbursable operations financed by revolving funds; advanced principles of accrual accounting; reporting of accrued expenditures and revenues; preparation of financial reports; accounting in decentralized operations; accrued cost accounting for areas of program responsibility—relationship to cost-based budgeting support for planning-programming-budgeting systems; year-end closing; accounting for lapsed appropriations; transfers; restorations to successor "M" accounts. Lecture, discussion, class problems, and tests are used. (Prerequisite: Principles of Accounting or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Government Accounting for each quarter (9/75).

Federal Personnel Procedure (E4114)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To enable the student to administer basic principles and procedures of Federal personnel administration.

Instruction: The use of personnel forms and records; Civil Service examinations and recruitment; appointments; transfers; promotions; separations and reductions in force; suspensions and disciplinary actions; retirement; performance ratings; leave and hours of duty. Lectures, discussion, and oral reports are used.

Credit recommendation: In the vocational certificate category, 2 semester hours in Personnel (9/75).

Human Relations in Administration (E6453)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To provide the student with a realistic view of the dynamic interplay of people and structures within organizations.

Instruction: Designed to develop understanding of, and insight into, interpersonal relationships in organizations, value orientations in administration, formal and informal organization, pathologies in administration, status and role, power and authority, styles of leadership, authoritarian and democratic administrators, career dynamics, psychological stress in administration, motivation, and morale.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management or Personnel Administration (2/75).

Intermediate Accounting (E6353)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 120 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To prepare the student to analyze and interpret financial statements, the end product of accounting.

Instruction: No actual keeping of accounts, but independent evaluation of existing accounts applying sound evaluation and accounting principles. Methods of correcting unsound accounting practices; alternative methods of presentation of financial statements. **First quarter:** Covers asset valuation and statement presentation of cash, temporary and long-term investments, inventories, consignments, and installment sales. **Second quarter:** Covers basic principles of acquisition, retirement, valuation and systematic write-off of plant, property, and intangible assets. Evaluation and determination of current liabilities, bonds, and sinking funds. Special areas include statement, disclosure, and presentation of pensions, leases, deferred taxes, and adjustment for price level changes. **Third quarter:** Encompasses paid-in capital (upon corporate formation and subsequent changes) together with retained earnings, dividends, and appropriation. Special areas include the preparation of statements from incomplete records, financial conditions, and break-even analysis.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Accounting for each quarter (2/75).

Intermediate Mathematical Statistics and Probability (E3404)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To introduce students to the mathematical foundation of modern statistics and its applications.

Instruction: First quarter: Foundations of probability theory; moments, and other characteristics of probability distribution; characteristic functions and their applications. **Second quarter:** Limit theorems; introduction to stochastic processes; sample functions; order statistics; extreme values; theory of runs. **Third quarter:** Theory of estimation; testing hypotheses; basic theory of sampling. (Prerequisite: Calculus and Mathematical Statistics, or equivalent.)

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Statistics and Probability for each quarter (2/75).

Introduction to Public Administration (E6344)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To introduce the student to elements of public administration and to lay the foundations for further study and practice in this field.

Instruction: Management of public affairs; differences and similarities between public and private management; mechanisms and procedures for carrying out public function, relationships of branches of the U.S. Government. (Prerequisite: American National Government, or equivalent.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Public Administration (2/75).

Introductory Statistics (E3126)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To introduce the student to basic statistical concepts and methods with emphasis on practical applications.

Instruction: First quarter: Collection of data; classification and presentation in tabular and graphic form; the mean, median, and mode; measures of dispersion, skewness, and kurtosis; basic probability theory and methods of counting; discrete probability distributions. **Second quarter:** Continuous probability distributions; sample distributions and estimation of population parameters from samples; sample design including simple random, stratified, and cluster sampling; tests of significance for a single sample mean and for the difference between the means of two samples; tests of significance for a single sample proportion and for the difference between the proportions of two samples; chi-square and other nonparametric methods; the F distribution; one- and two-way analysis of variance and experimental design. **Third quarter:** Analysis of linear regression and correlation methods for two variables; analysis of curvilinear regression and correlation methods for two variables; analysis of regression and correlation methods for more than two variables; time series, including trend analysis, periodic analysis, and forecasting; the construction and use of index numbers. (Prerequisite: High school algebra. College algebra helpful.)

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour for the first quarter, 2 semester hours for the second quarter, and 2 semester hours for the third quarter in Descriptive Statistics (in any program which does not require calculus-based statistics) (2/75).

Management by Objectives (E6526)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1971—Present.

Objective: To introduce the concepts of management by objectives and to help students learn the methods of selecting goals and objectives.

Instruction: Designed for managers at division level and above, for management analyst servicing agency at the higher levels, and for agency or bureau program and planning officers. Management by objectives as tool to assist agencies in identifying those activities not on target, or requiring corrective attention. Use of specific objectives, setting of definite targets, and measuring of achievement.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in General Management (2/75).

Mathematical Statistics (E3400) (Principles of Statistical Analysis)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To introduce the student to mathematical statistical concepts and methods with emphasis on practical applications.

Instruction: First quarter: Probability models; probability functions; conditional probability; independence; Bayes' theorem; cumulative distribution function; discrete and continuous random variables; probability density function; expectation and moments; Chebyshev inequality; discrete distributions; continuous distributions; joint distribution functions; conditional and marginal distributions. **Second quarter:** Techniques to find distributions of functions of random variables; low of large numbers; central-limit theorem; Chi-square distribution; F-distribution; t-distribution; order statistics; maximum-likelihood estimation; properties of point estimators; sufficiency; exponential family; Cramer-Rao inequality; Rao-Blackwell theorem; Bayes' estimators. **Third quarter:** Confidence intervals; tests of hypotheses; power functions; Neyman-Pearson Lemma; loss function; generalized likelihood-ratio tests; sequential tests.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Mathematics or Statistics for each quarter (2/75).

Personnel Psychology (E7446) (Personnel Administration)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1970—Present.

Objective: To provide an understanding of the principles of modern management with emphasis on personnel administration.

Instruction: First quarter: Primarily for students interested in understanding humans in work environments. Topics include meaning of work, technology and job satisfaction, work groups and informal organizations, motivating people to work, manager-group relations, special group and individual problems. **Second quarter:** For the student interested in human relations and personnel administration. Topics include role of personnel administration, organizational structures, manpower

planning, recruitment and selection, training, minority employment, and performance appraisal.

Credit recommendation: In the upper division baccalaureate category, 4 semester hours in General Management or Personnel Administration for both quarters (2/75).

Position Classification (E6444)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 20 hours (10 weeks).

Dates: September 1970—Present.

Objective: To provide an understanding of concepts of personnel classification systems as they pertain to governmental units.

Instruction: Personnel administration; systems of job evaluation; evaluation factors; job analysis; engineering and design; techniques of writing position descriptions; conducting desk audits; Federal wage system; management of a classification system. Lectures, practicums in position description and classification, and tests are used.

Credit recommendation: In the upper division baccalaureate category, 1 semester hour in Industrial Relations or Personnel (9/75).

Principles and Techniques of Management Analysis (E6405)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 40 hours (10 weeks).

Dates: September 1966—Present.

Objective: To develop an understanding of a variety of concepts, principles, and perspectives of management basic to management analysis.

Instruction: Comprehensive introduction to subject of management systems, their analysis, and improvement. Emphasis on systems approach to management and on role of the management analyst in identifying and solving problems in organization and management of government agencies. Concepts, principles, and perspectives basic to the management analyst. (Prerequisite: Introduction to Public Administration, equivalent experience, or permission of the instructor.)

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management (2/75).

Principles of Accounting (E6352)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 120 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To provide the student with a basic understanding of accounting terminology and concepts.

Instruction: First quarter: An introduction to accounting (basic principles and practices). The student is introduced to various accounting terminology and concepts such as transactions, inventories assets. Discussion and problems. **Second quarter:** The student is introduced to various accounting systems commonly used for partnerships and corporations, such as bookkeeping, payroll, etc. **Third quarter:** Review of corporate accounting and introduction to control accounting. Also cost systems; accounting; and analysis of financial statements.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Accounting for each quarter (2/75).

Principles of Auditing (E6601)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 60 hours (20 weeks); 2 ten-week quarters.

Dates: September 1965—Present.

Objective: To enable participants to audit and evaluate accounting and management systems.

Instruction: Principles and practices involved in audits, with emphasis on governmental auditing. Consideration of purposes and types of audits; auditing concepts and standards; planning and performing audits. Review of internal controls; preparation of work papers; and report writing. Utilization of audit principles in auditing operations of agencies in Federal Government. (Prerequisite: Intermediate Accounting, or equivalent.)

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting for both quarters (2/75).

Principles of Statistical Analysis (E3380)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1970—Present.

Objective: To introduce students to basic statisti-

cal concepts, methods, and theories, with emphasis on practical applications.

Instruction: First quarter: Review of algebraic and mathematical notations; foundation for basic concepts and principles of statistical analysis; descriptive statistics and their interpretation; concepts and computations of probabilities. **Second quarter:** Statistical inference from small samples; concepts of regression analysis; elementary theory of determinants and matrices; concepts and computations of variables. **Third quarter:** One-way analysis of variance; principles of design and analysis of surveys and experiments; general discussion of multivariate analysis.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours for each quarter in Descriptive Statistics (in a program which does not require a calculus-based statistics course) (2/75).

Public Personnel Administration (E6430)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objective: To familiarize the supervisor or administrator with personnel work in the public sector.

Instruction: Designed for the supervisor or administrator who wishes to have general familiarity with personnel work, for those in junior personnel staff positions desiring to broaden their understanding of personnel administration, and for those desiring to enter the field who need a foundation for more specialized courses in the personnel field. Primary emphasis on theory and practice of personnel administration in the Federal government. Development and significance of personnel administration in public services; recruitment, examination, and selection; classification and pay concepts; employee organizations, motivations, and training; conduct and discipline; role of Civil Service Commission, operating agencies, and their personnel officers; personnel responsibilities of supervisors; trends in personnel administration.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in General Management, Personnel, or Public Administration (2/75).

Stochastic Processes (E3460)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 90 hours (30 weeks); 3 ten-week quarters.

Dates: September 1969—Present.

Objective: To present an integrated study of the nature and properties of stochastic processes.

Instruction: First quarter: Statistical study of time series and other random processes, with applications in natural, social, and biological sciences. Properties of random processes; study of counting processes; statistical operations on processes. **Second quarter:** The course analyzes means by which to study stochastic processes. Introduction to Markov processes, including random walks, birth-and-death processes, queueing theory, detection of clustering, competition and predation, and diffusion processes. **Third quarter:** Emphasis on understanding concepts and theory as necessary steps toward application. Topics are developed to coincide with students' interests, but always include heavy emphasis on the analysis of time series in both time and frequency domains. (Prerequisite: Students are expected to have a strong background in both mathematics (through calculus) and statistics (at least one year of probability and statistical theory).

Credit recommendation: In the upper division baccalaureate category or in the graduate degree category, 2 semester hours in Mathematics or Statistics for each quarter (2/75).

Successful Supervision (E6467) (Principles of Supervision)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1973—Present.

Objective: To provide the student with the essential principles of supervision.

Instruction: A course designed to help practicing supervisors improve both their knowledge and skills in supervising; also intended for those hoping to become supervisors. Takes up supervisory principles and considers their application to situations in both government and business. Reviews latest developments in our knowledge of motivation, participation, organizations, and communications, as applied in practice; discusses techniques aimed at improving operating efficiency. Case studies, lectures, and discussions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in General Management (2/75).

Trigonometry (E3103)

Location: U.S. Department of Agriculture Graduate School, Washington, DC.

Length: 30 hours (10 weeks).

Dates: September 1970—Present.

Objectives: To provide students with a knowledge of trigonometric functions needed for Calculus.

Instruction: Basic definitions and uses of trigonometric functions. Radian measure; fundamental identities and solution of trigonometric equations, logarithms and exponential equations; oblique triangles; inverse trigonometric functions; graphs of functions and inverse functions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Trigonometry (2/75).

Additional information on these courses may be obtained from:
Project on Noncollegiate Sponsored Instruction
American Council on Education

UNITED STATES INTERNAL REVENUE SERVICE

The Internal Revenue Service (IRS) administers Federal tax law and regulations. It informs the public about the requirements of the law and determines the extent of compliance and causes of noncompliance.

The IRS offers more than 400 training programs covering a wide variety of clerical, secretarial, tax law, technical, and managerial subjects. Subject matter is presented through classroom training, on-the-job training, independent study courses, correspondence courses, or a combination of these. In addition to courses directly related to IRS operations, the Service offers basic education courses to promote employee advancement, courses to help the general public comply with the law, and courses for local, state, and foreign governments to assist them in establishing effective tax administration systems. Many of the courses are designed, developed, and maintained centrally and are conducted at the national headquarters in Washington, D.C., and at nine regional training centers: Atlanta, Chicago, Cincinnati, Dallas, Los Angeles, New York, Philadelphia, San Francisco, and St. Louis.

Source of official student records: Director, Training Division, A:T:C, Internal Revenue Service, 1111 Constitution Avenue, NW, Washington, D.C. 20224.

Revenue Agent Training, Units I and II (3125 a & b) (Fundamentals of Federal Income Tax)

Location: All Internal Revenue Service Training Centers.

Length: Unit I: 216 hours (27 days); residential.
Unit II: 216 hours (27 days); residential.

Dates: January 1965—Present.

Objective: To provide students with a basic understanding of the fundamentals of Federal income taxes with primary emphasis upon individual taxpayers and unincorporated business enterprises.

Instruction: Instruction in Federal income tax law and practice. Topics include gross income, employee benefits, trade or business expenses and itemized deductions, tax credits, income averaging, minimum tax, accounting methods and periods, gains and losses from the disposition of investment and business assets, inventories, net operating losses, and other related matters.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (3/75).

Revenue Agent Training, Units III and IV (3125C & 3126) (Federal Income Taxation of Partnerships and Corporations)

Location: All Internal Revenue Service Centers.

Length: Unit III: 112 hours (14 days); residential.
Unit IV: 96 hours (12 days); residential.

Dates: Unit III: January 1965—Present.
Unit IV: January 1967—Present.

Objective: To provide the student with a basic understanding of tax law in the areas of partnership and corporations.

Instruction: Coverage includes the formation, operation and liquidation of a partnership; the transfer and liquidation of a partner's interest; corporate formations, distributions, reorganizations, stock transactions and liquidations; thin capitalization; unreasonable accumulation of earnings, personal holding companies, and related taxpayers

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Accounting (3/75).

Additional information on these courses may be obtained from:

Project on Noncollegiate Sponsored Instruction
American Council on Education

UNITED STATES POSTAL SERVICE— TRAINING AND DEVELOPMENT INSTITUTE

The Postal Service Training and Development Institute was established in 1968 to provide needed training experiences to the 700,000 Postal Service employees. Its training and development activities include career development opportunities for Postal Service managers, supervisors, and craft employees to aid in personal and organizational development.

Courses are offered at the Institute's Management Center, the Career Development Branch, the Technical Center, and field centers throughout the country.

CAREER DEVELOPMENT BRANCH

The courses listed below are part of the Postal Inspection Training Program of the Career Development Branch, located in Bethesda, Maryland. The Program's purpose is to train law enforcement officers of the U.S. Postal Service.

Source of official student records: Office of the Registrar, Postal Service Training and Development Institute, 7900 Wisconsin Avenue, Bethesda, Maryland 20014.

Postal Inspector Basic Training (12251)

Part 1: (Audit Procedures I)
Part 2: (Audit Procedures II)
Part 3: (Criminal Law I)
Part 4: (Basic Criminal Investigation)
Part 5: (Advanced Criminal Investigation)
Part 6: (Administrative Practice)
Part 7: (Personal Defense)

Location: 8120 Woodmont Avenue, Bethesda, MD.

Length: 404 hours (16 weeks); residential. **Part 1:** 50 hours; **Part 2:** 53 hours; **Part 3:** 45 hours; **Part 4:** 69 hours; **Part 5:** 71 hours; **Part 6:** 64 hours; **Part 7:** 52 hours.

Dates: October 1972—Present.

Objective: To train postal inspectors in all aspects of Inspection Service work and to prepare them to assume the responsibilities of their first duty assignments.

Instruction: Part 1: A study of types of funds and accounts, types of audits and financial investigations, and audit standards. **Part 2:** A study of audit writing and working papers, economic analysis, service, operational, and financial audits. A practical exercise is included. **Part 3:** Presents the theory, evolution, and current status of presenting evidence in criminal cases; the laws of arrest, search and seizure, and entrapment; statements and affidavits; problems of legality in presenting various kinds of physical evidence. **Part 4:** Includes principles of investigation, investigative techniques, legal practices and procedures, security operations, and preparation of case reports. **Part 5:** Builds on the instructional content of the Basic Criminal Investigation block. Stress is on use of advanced techniques and advanced technology, nonroutine methods, preventive analysis, and control operations. **Part 6:** Elements include general administrative principles, report writing, case study approaches, technical, analytical, and managerial skills, and policy development. **Part 7:** Theory and practice of selected defense skills and their application to cope successfully with those situations in which the student encounters personal attack.

Credit recommendation: Part 1: In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Auditing, Business Administration, or Public Administration (2/75). **Part 2:** In the upper division baccalaureate category or in the graduate degree category, 3 semester hours in Auditing, Business Administration,

or Public Administration (2/75). **Part 3:** In the graduate degree category, 3 semester hours in Criminal Law (2/75). **Part 4:** In the lower division baccalaureate/associate degree category, 3 semester hours in Criminal Justice (2/75). **Part 5:** In the upper division baccalaureate category, 3 semester hours in Criminal Justice (2/75). **Part 6:** In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (2/75). **Part 7:** In the lower division baccalaureate/associate degree category, 1 semester hour in Physical Education (2/75).

NOTE: All participants complete Parts 1, 3, 4, 6, and 7. Trainees specializing in auditing complete Part 1 (Audit Procedures II), and those specializing in criminal investigation complete Part 5 (Advanced Criminal Investigation).

Security Force Training (12252) (Introduction to Law Enforcement)

Location: 8120 Woodmont Avenue, Bethesda, MD.

Length: 48 hours (3 weeks); residential.

Dates: October 1972—Present.

Objective: To develop the skills, knowledge, and attitudes required to perform as security aides, technicians, and supervisors.

Instruction: Covers various aspects of law and legal procedures applicable to the security aspects of law enforcement. Emphasis is given to principles of security such as building control, bomb threats, building search, narcotics and dangerous drugs, arson and fire prevention, emergency medical aid, defensive tactics, and crowds, mobs, and social disorders. Program includes firearms training, a study of individual behavior and human relations, and basics of improved oral and written communications. Lectures, discussions, practical exercises, and audio-visual equipment are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Law Enforcement (2/75).

MANAGEMENT CENTER

The courses listed below are conducted at the Management Center's main facility in Bethesda, Maryland, and at four field centers: Los Angeles, California; Oak Brook, Illinois; New York City; and Philadelphia, Pennsylvania.

Source of official student records: Office of the Registrar, Postal Service Training and Development Institute, 7900 Wisconsin Avenue, Bethesda, Maryland 20014.

Fundamentals of Management (11355-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 40 hours (5 days); residential; 4-6 hours of preparatory independent study.

Dates: May 1972—Present.

Objective: To provide the new first-line manager with an understanding of the responsibilities of the position and the expectations that an organization has of him or her.

Instruction: The course covers basic management principles to be used by the first-line manager in achieving maximum production and commitment from the subordinate work group: attitudes, communication, people in groups, conflict, work planning and supervision, motivation, and problem solving. Students explore and define several specific problem areas: identification with the management team, development of a more effective work group, the effects of different supervisory styles, effective communication with employees, and the capabilities of the first-line manager in providing for worker satisfaction and productivity. Lectures, discussion, and small group work are used.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Fundamentals of Management Information Systems (32260)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 40 hours (5 days); residential.

Dates: October 1974—Present.

Objective: To familiarize the student with the concepts of management information systems (MIS) and to provide experience in the use of MIS techniques.

Instruction: Relates MIS concepts to the following information and planning elements: classifying data needs of management MIS requirements, determining and specifying MIS objectives, capturing the data element/information flow, matrix techniques for MIS analysis, planning and controlling postal MISs, design features of MISs, and MIS implementation and followup. These elements are used in solving class-identified problems.

Credit recommendation: In the upper division baccalaureate category, 2 semester hours in Business Administration, Management, or Public Administration (11/74).

Modern Management Practices (11451-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 40 hours (5 days); residential; 20 hours of preparatory independent study.

Dates: December 1969—Present.

Objective: To provide an understanding of the interrelationships of communication and human behavior with planning, decision making, and problem solving.

Instruction: The course examines two analytical models and several management instruments for analyzing organizations, setting objectives, and developing criteria for decision making. Specific aspects covered include use of the decision criteria chart to evaluate alternative problem-solving strategies, use of means-ends analysis to determine meaningful objectives, effects of various communication patterns and planning approaches on employees and the organization, and the consideration of the total system in decision making and risk analysis. Introduces evaluation criteria needed to arrive at the appropriate communication pattern and planning approach that will mobilize, develop, and use the creative talents of people within the work unit.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Modern Management Practices Applied (11356-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 24 hours (3 days); residential; 15 hours of preparatory independent study.

Dates: July 1971—Present.

Objective: To enable students to apply a systems-oriented planning and decision-making model to analyzing problems and implementing change within an organization.

Instruction: The course applies the systematic problem-solving principles and techniques developed in Modern Management Practices (11451-00) to organizational problems identified by the participants. Task teams work on improvement in the areas of personnel, facilities and equipment, methods and procedures, standards, or costs. Implementation strategies are developed for the solutions or improvements selected. Small groups analyze these problems and compare solutions.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Operations Research Management (11272-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 80 hours (10 days); residential; 10-15 hours of preparatory independent study.

Dates: January 1972—Present.

Objective: To introduce the student to commonly used operations research techniques.

Instruction: Course covers operations research techniques, including investment models, linear programming, the transportation method, simulation, interactive man-computer systems, computerized data bases, and decision making under risk and uncertainty. Problems are analyzed to show how managers might use operations research techniques. Participants also study measurement problems, forecasting, and the reconciliation of multiple objectives.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Purchasing and Contracting I (34451-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 40 hours (5 days); residential; 20-30 hours of preparatory independent study.

Dates: March 1972—Present.

Objective: To provide knowledge and understanding of the U.S. Postal Service procurement policies and procedures.

Instruction: The U.S. Postal Service organization, policies, regulations, and procedures relating to basic contracting principles; general considerations; formal advertising; negotiation; informal purchases; contract negotiation administration; and supervision of procurement personnel.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Business Administration, Management, or Public Administration (11/74).

Purchasing and Contracting II (34252-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 80 hours (10 days); residential; 20-30 hours of preparatory independent study.

Dates: August 1972—Present.

Objective: To provide understanding of purchasing and contracting regulations, policies, and procedures, and to teach the participants to supervise procurement.

Instruction: Procurement procedures and policies; general contracting considerations; formal advertising; negotiation; informal purchases and contract administration; ordering, receiving, storage, inventory control, and the issue of supplies.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Quantitative Management (11271-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD.

Length: 80 hours (10 days); residential; 10-12 hours of preparatory independent study.

Dates: January 1972—Present.

Objective: To provide a working knowledge of several widely used techniques in quantitative managerial decision making.

Instruction: Identification, definition, and quantitative solution of problem types frequently encountered by managers: assignment, sequencing, queuing, inventory, allocation, distribution, and routing. A classification scheme is used to help managers organize and classify available data. Solution techniques are presented in a way that stresses the relative merits and requirements of each.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

Rational Decision Making (11253-00)

Location: Management Center, 7900 Wisconsin Avenue, Bethesda, MD; field centers.

Length: 40 hours (5 days); residential; 10 hours of preparatory independent study.

Dates: May 1973—Present.

Objective: To teach managers the principles of problem solving.

Instruction: The course is constructed around a synthesis model that shows managers how to specify the dimensions of a problem, identify and test possible causes, and develop solutions. Two approaches are offered for solving any problem. Four general areas are highlighted: problem analysis, decision analysis, consequence analysis, and situation diagnosis. Students are taught how to use various techniques, including systems analysis, PERT systems, problem-solving grids, and decision trees.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Business Administration, Management, or Public Administration (11/74).

TECHNICAL CENTER

The courses listed below are offered by the Institute's Technical Center in Norman, Oklahoma, where more than 35,000 Postal Service employees have completed residence courses in repair and maintenance of postal equipment and vehicles since 1969.

Source of official student records: Office of the Registrar, Postal Service Training and Development Center, Norman, Oklahoma 73069.

Automatic Transmission Overhaul (55627-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: October 1970—Present.

Objective: To develop understanding of automatic transmission overhaul procedures; to increase effectiveness, confidence, and skills in diagnosing, disassembling, inspecting, reassembling, and adjusting automatic transmissions and components.

Instruction: Operation and service of torque converters, hydraulic pumps, valve bodies, circuits, clutches, planetary gears, power flows; internal and external inspection, adjustment, and diagnosis procedures. Includes units of instruction and workshop experiences in use of special tools and equipment. Covers the Borg Warner, Powerglide, Turbo-Hydromatic 400, Dodge A-727, Ford C-4 transmissions, and M-43 Shift Command.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology, Industrial Education, or Mechanical Technology (12/74).

Automotive Electrical Systems (55625-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: July 1970—Present.

Objective: To provide students with technical knowledge in the maintenance and repair of automotive electrical systems and in the use and care of automotive testing equipment, and to increase the students' proficiency in analyzing, diagnosing, and repairing various automotive electrical systems.

Instruction: Automotive electricity and the construction, repair, and adjustment of automotive electrical systems. Includes use of automotive test equipment, battery testing, and the troubleshooting and repair of starting, charging, ignition, lighting, and instrument systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology or Industrial Electrical Technology (12/74).

Digital Computer Technology (55694-00)

Location: Technical Center, Norman, OK.

Length: 240 hours (6 weeks); residential; 24 hours of lecture/discussion and 16 hours of laboratory/workshop per week.

Dates: July 1972—Present.

Objective: To provide programming knowledge needed to enter training in sophisticated digital computerized systems; to provide in-depth knowledge of the theory, operation, troubleshooting, maintenance, and repair of the PDP-8 digital computer; and to familiarize the student with associated peripheral devices commonly used to communicate with high-speed computers.

Instruction: This course is designed to provide the student with the knowledge and skill required to repair proficiently and effectively the PDP-8 digital computer, and to familiarize the student with the peripheral equipment commonly associated with high-speed computers. The hardware portion of the course covers systems description, instruction set use, logic diagram analysis of the central processor, memory operation, programmed interrupt, data break, I-O transfer logic, and related peripheral devices. Technical maintenance includes theory of operation and practical hands-on troubleshooting exercises in the laboratory.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Programming and 3 semester hours in Computer Technology or Electromechanical Technology (12/74).

Digital Electronics (55693-00) (Logic Circuits)

Location: Technical Center, Norman, OK.

Length: 160 hours (4 weeks); residential; 30 hours of lecture/discussion and 10 hours of laboratory/workshop per week.

Dates: July 1970—Present.

Objective: To provide students with a background in digital logic in order to prepare them for advanced training in sophisticated digital electronics equipment.

Instruction: Covers the basic principles of number systems, Boolean algebra, and logic circuits such as gates, encoders, decoders, flip-flops, shift registers, and various counters as found in sophisticated digital equipment, utilizing both theory and equipment hardware.

Credit recommendation: In the lower division baccalaureate/associate degree category, 4 semester hours in Computer Systems, Electronics, or Optical Data Processing (12/74).

Engine Tune-up and Air Pollution Control Devices (55624-00)

Location: Technical Center, Norman, OK.

Length: 80 hours (2 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: August 1973—Present.

Objective: To provide students with an understanding of automotive air pollution control; to train them to maintain motor vehicles equipped with air pollution control devices; and to develop the students' skill in preventive maintenance and engine tune-up, use of engine analyzing and tune-up equipment, analyzing engine performance, and in testing and servicing air pollution control devices.

Instruction: Vehicle air pollution terminology; compression; ignition; carburetion; tune-up procedures; use of analyzing equipment, including the oscilloscope; and inspection, testing, and servicing of air pollution control devices in current use.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Automotive Technology, Industrial Arts, or Industrial Education (12/74).

Mark II Facer-Canceler and Feeder Machine (55653-00)

Location: Technical Center, Norman, OK; regional postal installations.

Length: 160 hours (4 weeks); residential; 25 hours of lecture/discussion and 15 hours of laboratory/workshop per week.

Dates: July 1969—Present.

Objective: To train maintenance personnel to maintain, troubleshoot, and repair facer-canceler and feeder systems.

Instruction: Component assembly identification, location, function; repair and parts replacement; troubleshooting analysis techniques; adjustment, alignment, and preventive maintenance of an electromechanical system. Utilizes appropriate technical manuals and data, diagnostic test equipment (oscilloscopes, volt-ohm meters, etc.), and regular and special tools.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology or Mechanical Technology (12/74).

Multi-Position Letter-Sorter Machine (55651-00)

Location: Technical Center, Norman, OK; regional postal installations.

Length: 120 hours (3 weeks); residential; 20 hours of lecture/discussion and 20 hours of laboratory/workshop per week.

Dates: May 1970—Present.

Objective: To train maintenance personnel to troubleshoot, repair, and perform normal preventive maintenance on the multi-position letter-sorter machine.

Instruction: Operating principles; component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; analysis, diagnosis, and correction of electrical and mechanical equipment malfunctions; preventive maintenance practices.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology or Mechanical Technology (12/74).

Postal Diesel (55639-00) (Automotive Diesel Mechanics)

Location: Technical Center, Norman, OK.

Length: 120 hours (3 weeks); residential; 15 hours of lecture/discussion and 25 hours of laboratory/workshop per week.

Dates: July 1973—Present.

Objective: To enable the student to become proficient in troubleshooting, diagnosing, servicing, and repairing components in systems described below, performing diesel engine tune-ups, using test equipment, and analyzing engine performance.

Instruction: Principles of automotive diesel engine systems, including lubricating, fuel, air induction, exhaust, cooling, and engine clutch. Instruction includes classroom presentations and shop work experiences on diesel systems including fuel, air induction, exhaust, cooling, lubricating, and engine clutch; tune-up procedures; use of analyzing equipment, including the pressure prover, nozzle pop tester, and diesel timing light; and proper use of shop and parts manuals, vehicle record cards, technical bulletins, measuring devices, troubleshooting charts,

and preventive maintenance schedules.

Credit recommendation: In the lower division baccalaureate/associate degree category, 5 semester hours in Automotive Technology, Diesel Mechanics, Industrial Arts, Industrial Education, or Power Technology (12/74).

Postal Source Data System (55641-01)

Location: Technical Center, Norman, OK.

Length: 180 hours (12 weeks); residential; 20 hours of lecture/discussion and 20 hours of laboratory/workshop per week.

Dates: July 1972 – Present.

Objective: To provide students with knowledge and techniques required to maintain the PSDS system.

Instruction: Familiarization with the entire system, including input, output, and control devices; decimal, binary, and octal number systems, including the manipulation of the three systems and application of the principles to the system; electrical, mechanical, electromechanical, and electronic theory to the depth necessary for effective maintenance of the devices involved; theory of operation of input, output, and control devices; study and application of necessary test equipment; corrective maintenance procedures, based on symptom analysis and effective troubleshooting techniques; routine preventive maintenance procedures.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Electromechanical Technology, 6 semester hours in Computer System Analysis, and 3 semester hours in Electronic and Electromechanical Fundamentals (12/74).

Zip-Mail Translator (55655-01)

Location: Technical Center, Norman, OK.

Length: 240 hours (6 weeks); residential; 28 hours of lecture/discussion and 12 hours of laboratory/workshop per week.

Dates: August 1970 – Present.

Objective: To train students to troubleshoot, repair, and perform preventive maintenance on the zip-mail translator system of the letter-sorter machine.

Instruction: Component assembly identification, location, function; repair and parts replacement; troubleshooting analysis techniques; and adjustment, alignment, and preventive maintenance procedures. Teaches the proper use of appropriate technical manuals and data, diagnostic test equipment, and regular and special tools.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Data Processing System Analysis and 3 semester hours in Computer Maintenance Technology, Data Processing Technology, or Electronic Technology (12/74).

Additional information on these courses may be obtained from:
Project on Noncollegiate Sponsored Instruction
American Council on Education

UNITED STATES PUBLIC HEALTH SERVICE HOSPITAL—STATEN ISLAND, NEW YORK

The United States Public Health Service Hospital is a modern facility of 500 beds located at Bay Street and Vanderbilt Avenue on Staten Island in New York City. The hospital provides a wide range of clinical services, as well as an outpatient clinic. There is a full-time staff of 40 to 50 physicians working with the nursing and administrative staff and the residents and interns.

The hospital offers a variety of formal and approved training programs. These include an approved training program in anesthesiology and programs for medical and dental interns and residents; dietetic, pharmacy, and administrative interns; and radiology and laboratory technicians.

SCHOOL OF ANESTHESIA FOR NURSES

The School of Anesthesia for Nurses was established in 1939. Its major purpose is to provide competent nurse anesthetists for the smaller U.S. Public Health Service hospitals and Health Service facilities on Indian reservations throughout the United States. The overall objectives of the program are:

- to provide training in the principles and practice of anesthesia which will enable the graduate to perform the duties of a nurse anesthetist at a high level of competence;
- to prepare nurse anesthetists qualified to function independently as single-person anesthesia departments;
- to provide instruction in theory and practice to enable graduates to meet the professional standards set by the American Association of Nurse Anesthetists.

The nurse anesthetist training program consists of 24 months of training, during which students attend classroom lectures, administer general anesthetics and assist in management of patients under staff supervision, attend daily staff conferences and case presentations, and participate in periodic conferences with consultant anesthesiologists.

Source of official student records: Course Director, School of Anesthesia for Nurses, U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, New York 10304.

Anatomy, Physiology, and Pathology

Location: U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 249 hours (2 years).

Dates: July 1969—Present.

Objective: To provide the student with advanced knowledge of the structure, function, and disease processes of the human body as applied to intensive health care.

Instruction: Correlated and integrated approach to anatomy, physiology, and pathology with emphasis on the functional aspects. Protoplasm and its properties; embryology; anatomical terms; cells; tissues; organs; systems (skeletal, muscular, nervous, respiratory, circulatory, digestive, endocrine, excretory, reticulo-endothelial); effects of anesthesia on the body.

Credit recommendation: In the upper division baccalaureate category, 12 semester hours in Basic Science (Anatomy, Physiology, and Pathology) (6/75).

Applied Practice

Location: U.S. Public Health Service Hospital,

Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 1000 hours (2 years).

Dates: July 1969—Present.

Objective: To provide appropriate clinical experience necessary for the student to be able to apply concepts, skills, and knowledge effectively in both anesthesia and Intensive Care practice.

Instruction: Students function as learning members of an anesthesiology department. Experience is provided in patient preparation, selection of appropriate anesthetics, administration of anesthetics, and followup during the operative procedure. Close supervision is provided to develop and evaluate the students' clinical skills. Students work with a minimum of 500-700 patients during the 2-year program. Other hospitals are utilized to provide a diversity of experience.

Credit recommendation: In the upper division baccalaureate category, 24 semester hours in Clinical Laboratory (6/75).

Chemistry and Physics

Location: U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 67 hours (2 years).

Dates: July 1969—Present.

Objective: To provide an introductory course in chemistry and physics with special reference to their applications in anesthesia.

Instruction: Basic mathematics; weights and measures; atomic theory; molecular theory; formulas and radicals; electrolytic solution; acid-base theory; organic and inorganic chemistry as related to anesthesia; biochemistry; blood brain barrier; physics; gas laws; gas cylinders and regulators; anesthesia machine design; gases and vapors in solution; diffusion and osmosis; anesthesia apparatus; transport of oxygen and carbon dioxide in blood; blood gas analyzers; ventilators; cleaning vs. sterilization; hyperbaric medicine; electricity and anesthesia; fire and explosion hazards.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Basic Science (Chemistry and Physics) (6/75).

Fundamentals of Anesthesia

Location: U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 219 hours (2 years).

Dates: July 1969—Present.

Objective: To provide an overview of the fundamental methods and procedures of anesthesia.

Instruction: History of the anesthesia profession; ethics and legal aspects of anesthesia; common medical problems; common laboratory tests; equipment; techniques; positions; indications for intubation, extubation, and respiratory assistance; asepsis and care of equipment; contaminated case procedures.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Fundamentals of Anesthesia (6/75).

Pharmacology

Location: U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 140 hours (2 years).

Dates: July 1969—Present.

Objective: To provide the student with an in-depth understanding of the effects of the clinical usage of drugs on the various systems of the body.

Instruction: Definitions and terminology; reactions to drugs; autonomic nervous system; cardiovascular drugs; diuretics; antihistamines; narcotics and narcotic antagonists; sedatives and hypnotics; hormones; tranquilizers; drug-related problems; signs and stages of general anesthesia; general anesthetic agents; local anesthetics. The following aspects of each drug are presented: classification, chemical types, mechanism of action, therapeutic effect, side effects, indications, contraindications, toxic reaction, and interrelationship with the state of anesthesia.

Credit recommendation: In the graduate degree category, 9 semester hours in Pharmacology (6/75).

Respiratory Care

Location: U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 45 hours (25 weeks).

Dates: July 1969—Present.

Objective: To provide an introductory course in respiratory therapy.

Instruction: Administration of gases for the treatment of primary and secondary conditions affecting

respiration; emergency resuscitation cardioversions; therapeutic use of aerosols; administration of inhalation therapy; use, maintenance, and repair of automatic ventilators.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Respiratory Therapy (6/75).

Seminar

Location: U.S. Public Health Service Hospital, Bay Street and Vanderbilt Avenue, Staten Island, NY.

Length: 69 hours (2 years).

Dates: July 1969—Present.

Objective: To provide the student with research findings and discussion of new ideas and techniques in the field of anesthesia.

Instruction: Three consulting anesthesiologists each meet with the students and hospital anesthesia staff once a month to present cases for discussion and to critique cases presented by the students. Considerable preparation and participation are required on the part of each student.

Credit recommendation: In the upper division baccalaureate category, 3 semester hours in Current Medical Problems Relating to Anesthesia (6/75).

Additional information on these courses may be obtained from:
Office on Noncollegiate Sponsored Instruction
New York State Education Department

XEROX CORPORATION

Xerox Corporation is an information-processing organization with interests in copiers/duplicators, education, aerospace, and medical diagnostics. Xerox has extended its interests throughout the world to 113 countries.

A variety of residential training courses is offered to Xerox employees from the United States and Canada at the International Center for Training Management and Development. Each division within the corporation conducts training programs for its employees.

INFORMATION SERVICES DIVISION

Information Services Division (ISD), which was formed in 1972, provides data processing and facilities management services to the corporation. ISD offers courses in systems analysis, project management, programming, and management training.

The lecture and discussion format of the courses is supplemented by supervised workshops which allow students to practice what they have learned in class.

The courses listed below have, in many cases, been grouped under one topical heading because students take those courses as one unit over a period of time.

Source of official student records: Manager, Development and Education, Information Services Division, Xerox Corporation, Xerox Square 892, Rochester, New York 14644.

Advanced COBOL Programming

1. **COBOL Modular Programming—S/360 (126)**
2. **COBOL Optimization (118)**
3. **Structured Programming—COBOL (130)**

Location: Rochester, NY.

Length: 1. 12 hours (2 days).
2. 12 hours (2 days).
3. 18 hours (3 days).

Dates: September 1974—Present.

Objective: To increase the student's efficiency in COBOL programming and to introduce advanced techniques.

Instruction: Optimization techniques; structured programming; overlay techniques; program segmentation; program linkage. A team programming approach is practiced.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Science (1/75).

Advanced Data Communications (434)

Refer to Introduction to Data Communications.

APL Overview (402)

Refer to Introduction to A Programming Language (APL).

APL Programming (406)

Refer to Introduction to A Programming Language (APL).

Assembly Language Coding

1. **Intermediate Assembler (206)**
2. **Introduction to Assembler (202)**

Location: Rochester, NY.

Length: 1. 24 hours (1 week).
2. 18 hours (1 week).

Dates: January 1968—Present.

Objective: To enable the student to code simple programs in IBM Basic Assembly Language (BAL).

Instruction: All the main BAL instructions, including QSAM I/O, are covered. DSECTS; PARMS; EX; TR; TRT; SHIFTS; ORG; CALL; overlays in an Assembly; simple macrowriting. Several small programs that use important Assembly techniques are coded.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Computer Science (1/75).

Basic Data Communications (430)

Refer to Introduction to Data Communications.

COBOL Modular Programming—S/360 (126)

Refer to Advanced COBOL Programming.

COBOL Optimization (118)

Refer to Advanced COBOL Programming.

COBOL Programming

1. Intermediate COBOL (110)
2. Introduction to COBOL (106)

Location: Rochester, NY.

Length: 1. 12 hours (1 week).
2. 30 hours (1 week).

Dates: January 1970—Present.

Objective: To enable the student to develop a working capability in the use of COBOL and the ability to code simple programs.

Instruction: Data definition, redefinition, and manipulation; validation techniques; working with signed fields; techniques involving figurative constants; boundary alignment considerations; tables; binary search; disk file handling.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Science (1/75).

Control Blocks (150)

Refer to IBM OS Programming.

Core Dump Analysis (154)

Refer to IBM OS Programming.

Data Processing Project Management (518)

Location: Rochester, NY.

Length: 18 hours (1 week).

Dates: September 1974—Present.

Objective: To provide an understanding of project management as an organizational structure—how it compares with traditional line/staff functional organizations and why it is an effective method for controlling the systems development process.

Instruction: Explanation of the role of project manager. Project management; the project manager; the management of data processing projects; the human factors in project management and planning.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 2 semester hours in Computer Science or Management (1/75).

Decision Tables (542)

Refer to Introduction to Computer Science.

Fundamental Computer Concepts (502)

Refer to Introduction to Computer Science.

Fundamentals of FORTRAN (158)

Location: Rochester, NY.

Length: 18 hours (1 week).

Dates: October 1972—Present.

Objective: To provide the student with basic concepts of FORTRAN programming and the ability to code simple programs.

Instruction: FORTRAN; syntax; expressions; assignments; control; input/output; format and subprograms; differences in FORTRAN for IBM, Xerox, and Univac systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Computer Science (1/75).

IBM OS Programming

1. Control Blocks (150)
2. Core Dump Analysis (154)
3. JCL-I (142)
4. JCL-II (146)
5. OS Internals—S/360 (214)
6. Techniques of File Organization (256)

Location: Rochester, NY.

Length: 1. 20 hours (1 week).

2. 12 hours (1 week).
3. 18 hours (1 week).
4. 18 hours (1 week).
5. 12 hours (1 week).
6. 12 hours (1 week).

Dates: January 1972—Present.

Objective: To provide the student with extensive background in IBM OS operating system environment.

Instruction: Core layout, job flow; key work parameters, job statement, EXEC statement, data sets; procedures, generation data groups, index-sequential files; interpretation of core dumps; the building and use of control blocks; advantages and disadvantages of ISAM and DISAM.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Computer Science (1/75).

Intermediate Assembler (206)

Refer to Assembly Language Coding.

Intermediate COBOL (110)

Refer to COBOL Programming.

Introduction to A Programming Language (APL)

1. **APL Overview (402)**
2. **APL Programming (406)**

Location: Rochester, NY.

Length: 1. 6 hours (1 week).
2. 30 hours (1 week).

Dates: January 1974—Present.

Objective: To provide the student with basic concepts of APL programming and to enable him/her to code simple programs.

Instruction: APL history; mode of operation; vectors; arrays; reduction; function definition.

Credit recommendation: In the lower division baccalaureate/associate degree category, 1 semester hour in Computer Science (1/75).

Introduction to Assembler (202)

Refer to Assembly Language Coding.

Introduction to COBOL (106)

Refer to COBOL Programming.

Introduction to Computer Science

1. **Decision Tables (542)**
2. **Fundamental Computer Concepts (502)**
3. **Introduction to Program Logic (102)**

Location: Rochester, NY.

Length: 1. 12 hours (1 week).
2. 12 hours (1 week).
3. 12 hours (1 week).

Dates: June 1972—Present.

Objective: To provide the student with basic understanding of computers and their use as a prerequisite to pursuing more specific computer application courses.

Instruction: A general approach to computer functioning, programming logic, and decision tables; history of computers; number systems; flowcharting; an overview of hardware.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Computer Science (1/75).

Introduction to Data Communications

1. **Advanced Data Communications (434)**
2. **Basic Data Communications (430)**

Location: Rochester, NY.

Length: 1. 12 hours (2 days).
2. 12 hours (2 days).

Dates: January 1973—Present.

Objective: To provide the student with basic understanding of data communication systems and devices for application in systems analysis and systems programming.

Instruction: Characteristics of a Teleprocessing system; communications channels; data sets; line control; network design; IBM display stations; transmission control units; a communications controller; common carrier systems.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 1 semester hour in Computer Science (1/75).

Introduction to Program Logic (102)

Refer to Introduction to Computer Science.

JCL-I (142)

Refer to IBM OS Programming.

JCL-II (146)

Refer to IBM OS Programming.

OS Internals—S/360 (214)

Refer to IBM OS Programming.

Structured Programming—COBOL (130)

Refer to Advanced COBOL Programming.

Systems Analysis and Design (510)

Location: Rochester, N.Y.

Length: 60 hours (2 weeks).

Dates: June 1972—Present.

Objective: To develop the initial skills necessary to conduct a systems study for commercial applications within the framework established by a phased approach to systems analysis and design.

Instruction: The course consists of various modules associated with the development of a systems study. A case study approach is used to develop skills. Problem definition; fact gathering; interviewing techniques; data organization; fact analysis techniques; input/output design; presentation techniques; system implementation; test development procedures; system followup; building an enthusiastic system; communication.

Credit recommendation: In the lower division baccalaureate/associate degree category or in the upper division baccalaureate category, 4 semester hours in Computer Science (1/75).

Techniques of File Organization (256)

Refer to IBM OS Programming.

INTERNATIONAL CENTER FOR TRAINING AND MANAGEMENT DEVELOPMENT

The Xerox International Center for Training and Management Development in Leesburg, Virginia, provides sales, service, and management training programs for Xerox employees from the United States and Canada.

Source of official student records: Xerox International Center Personnel Administration Department, Xerox International Center for Training and Management Development, P.O. Box 2000, Leesburg, Virginia 22075.

6500 Color Copier (A24)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); residential; 2-1/2 hours of lecture, 10 hours of disucssion, and 17-1/2 hours of self-paced study and laboratory per week.

Dates: January 1975—Present.

Objective: To train maintenance personnel to troubleshoot, align, adjust, and repair color copiers equipped with time-sharing devices.

Instruction: In-depth study of theory and applications of color and light phenomena; advanced logic functions and time sharing; familiarization with color copier modules; identification, location, and function of electrical, mechanical, optical, and xerographic components and modules; use of precision measuring and adjusting tools; fault analysis, diagnostics, and adjustment/alignment techniques.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and Maintenance, 1 semester hour in Digital Systems, and 1 semester hour in Principles of Color Photography (3/75).

Computer Forms Printer (Duplicator)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 120 hours (3 weeks); residential; 14 hours of lecture, 3 hours of discussion, and 23 hours of laboratory per week.

Dates: January 1975—Present.

Objective: To provide knowledge necessary for advanced troubleshooting to maintain an electronic-intensive, electromechanical, data processing-type office machine designed for computer printout input with collator output features.

Instruction: Component location and function, system operation, logic circuitry; use of electronic instruments (CRO, etc.); mechanisms; xerography; and fault analysis diagnosis techniques necessary to troubleshoot, adjust, and align a complex electromechanical system.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

3100 Copier Cross-Train (A23)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 70 hours 1-1/2 weeks); residential; 62 hours of school residence, 8 hours of postschool; 6 hours of lecture and 34 hours of laboratory per week.

Dates: February 1975—Present.

Objective: To prepare individuals to perform fault analysis, operational diagnosis, and alignment/adjustment of an electronic-intensive copier machine.

Instruction: Solid-state electronic circuit functions, mechanisms and their adjustment; use of precision devices and xerographic principles and opticals modules. Laboratory project is oriented to module understanding and fault analysis.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

4000 Cross-Training (A22)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 120 hours (3-1/2 weeks); residential; 4 hours of lecture, 8 hours of discussion, and 28 hours of laboratory/workshop per week.

Dates: June 1974—Present.

Objective: To train maintenance personnel to perform the normal preventive maintenance, troubleshooting analysis, and repair maintenance required on the copier machine.

Instruction: Functions of logic circuitry; operating principles; component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; fault analysis, diagnosis, and correction of electrical and mechanical equipment and malfunctions.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

9200 Duplicator (A61)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 172-240 hours (4-1/2—6 weeks); residential; self-paced.

Dates: January 1975—Present.

Objective: To provide participants with the knowledge and skills necessary to install, perform preventive maintenance on, troubleshoot, and repair a complex electromechanical duplicating system.

Instruction: Systems fault analysis; xerography; functional operation of optics; system accounting; theory of AC and DC circuits; fundamental principles of solid-state devices; logic elements, flip-flops, and their use in control and timing circuits; operation of complex mechanical mechanisms involving their adjustment and timing sequences in relationship to electronic control systems.

Credit recommendation: In the lower division baccalaureate/associate degree category, 3 semester hours in Digital Systems and 2 semester hours in Electromechanical Mechanisms (3/75).

840 Engineering Printing System (A41)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); residential; 4 hours of lecture, 16 hours of discussion, and 20 hours of laboratory per week.

Dates: January 1975—Present.

Objective: To provide knowledge necessary to maintain electromechanical office copying equipment, and to provide in-depth knowledge of the theory, operation, diagnostics, and maintenance techniques required to develop a proficient and effective method of maintaining the equipment.

Instruction: Component assembly identification, location, function, repair, and parts replacement; troubleshooting analysis techniques; adjustment, alignment, and preventive maintenance philosophy of an electromechanical system. Utilizes appropriate technical manuals and data, diagnostic test equipment (volt-ohm meter, ammeter), regular and special tools.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology (3/75).

600 Microfilm Enlarger Printer (A40)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 80 hours (2 weeks); residential; 4 hours of lecture, 12 hours of discussion, and 24 hours of laboratory a week.

Dates: January 1975—Present.

Objective: To prepare individuals to perform fault analysis, diagnosis, and alignment/adjustment of the electrical circuitry and the mechanical components of a microfilm enlarger printer.

Instruction: Electrical components and their assembly into an operational system; electrical schematic diagrams and their use in fault analysis/troubleshooting and correction. Basic mechanical adjustment/alignment techniques and procedures.

Credit recommendation: In the vocational certificate category, 2 semester hours in Electromechanical Technology (3/75).

4000 New Hire (A02)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 136 hours (3-1/2 weeks); residential; 8 hours of lecture, 8 hours of discussion, and 24 hours of laboratory/workshop per week.

Dates: June 1974—Present.

Objective: To train maintenance personnel to perform the normal preventive maintenance, troubleshooting analysis, and repair maintenance required on the copier machine.

Instruction: Electrostatics, optics, photo conduction and the principles of xerography; functions of logic circuitry; operating principles; component assembly identification, location, and function; alignment and adjustment procedures; repair and parts replacement; fault analysis, diagnosis, and correction of electrical and mechanical equipment malfunctions; preventive maintenance practices.

Credit recommendation: In the lower division baccalaureate/associate degree category, 2 semester hours in Electromechanical Technology and 1 semester hour in Digital Systems (3/75).

New Hire Copier (A00)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 160 hours (4 weeks); residential; 4 hours of lecture, 16 hours of discussion, and 20 hours of laboratory per week.

Dates: January 1975—Present.

Objective: To provide occupational skill in diagnosis and correction of mechanical and electrical equipment malfunction in copiers.

Instruction: Familiarization with xerographic equipment, specific component location, symbolic representation of functions and operation; the system operation of basic copiers.

Credit recommendation: In the vocational certificate category, 3 semester hours in Electromechanical Technology (3/75).

New Hire Duplicator 3600 (A01)

Location: Xerox International Center for Training and Management Development, Leesburg, VA.

Length: 152 hours (19 days); residential; 12 hours of lecture, and 28 hours of laboratory per week.

Dates: January 1975—Present.

Objective: To provide occupational skill in diagnosis and correction of mechanical and electrical equipment malfunction in copiers.

Instruction: Familiarization with xerographic equipment; specific component location, symbolic representation functions and operation; the system operation of basic copiers, systems fault analysis (troubleshooting) techniques necessary to adjust and replace faulty components.

Credit recommendation: In the vocational certificate category, 3 semester hours in Electromechanical Technology (3/75).

Additional information on the Information Service Division courses may be obtained from:

Office on Noncollegiate Sponsored Instruction
New York State Education Department

Additional information on the International Center for Training and Management Development courses may be obtained from:

Project on Noncollegiate Sponsored Instruction
American Council on Education

APPENDIX A
List of Evaluators

Richard Allan
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Northern Oklahoma College

Joseph Andrews
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AIL Division of Cutler Hammer
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Kean State College

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Krannert Graduate School of Industrial Administration
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Jacqueline Brophy
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Arthur A. Burr
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Philip E. Burton
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Donald E. Calvert
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James Robert Carbin
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Director, Education Department
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APPENDIX B
Project Policies and Procedures

In the fall of 1975, the New York State Board of Regents and the Commission on Educational Credit of the American Council on Education approved the following policies and procedures for the review of noncollegiate courses. This version represents an expansion and revision of the Interim Evaluative Criteria and Procedures which were approved in September 1974. They will undoubtedly undergo future revisions as the Project progresses.

Eligibility

1. Organizations eligible to submit educational programs for review are noncollegiate institutions whose primary focus is not education, such as private industry, governmental agencies, labor unions, voluntary associations, and professional associations. Participation in the Project is on a voluntary basis, with each organization choosing, in consultation with Project staff, those courses which it wishes to submit for evaluation.

2. Only educational programs or courses conducted on a formal basis and with official approval of the sponsoring organization will be considered. Courses must be under the control of the sponsoring organization. Informal on-the-job training and job experience will not be reviewed.

The following guidelines shall be used in selecting courses or programs for review:

a. The material presented in each course must be on the postsecondary level.

b. The instructors should be selected on the basis of their qualifications to teach the subject matter, including their formal education and experience.

c. The course should serve people who can use the credit recommendations toward a postsecondary credential.

d. Appropriate procedures (tests, projects, oral quizzes, etc.) must be used in the courses to evaluate student performance. Correspondence and independent study courses must include a proctored examination administered under secure conditions.

e. Intensive courses should be of at least 5 days duration (35-40 hours of instruction).

f. Intensive technical courses involving laboratory or workshop exercises should be at least 10 days in length (70-80 hours of instruction).

g. Courses conducted over an extended period of time should contain at least 30 hours of instruction.

h. Individual courses that do not meet the above time requirements may be grouped together for purposes of review.

i. Courses that have not been offered during the preceding five years will not be reviewed.

Documentation

3. Sponsoring organizations will submit information concerning the administration of their educational programs. On the basis of this information, Project staff will decide whether the organization demonstrates sufficient stability and control to present its courses for review. Information submitted will include a description of the administration of the training function, procedures for selecting and evaluating instructional staff, procedures for course development, evaluation, and revision, and procedures for insuring consistent quality in programs delivered at multiple locations. This submission will be a part of the Project's permanent record on the sponsoring organization.

4. Each participating organization must maintain permanent and official records of students' participation and performance in any course which is reviewed. The sponsoring organization must demonstrate the capability to store and retrieve student records for the period covered by the credit recommendations.

5. For the evaluation of courses involving classroom instruction the following information must be submitted:

a. Course syllabus describing the objectives and content.

b. Instructional materials used for the course (textbooks, audio-visual materials, case studies, problems, etc.).

c. Required or suggested qualifications of course participants.

d. Qualifications of instructional staff.

e. Techniques used to evaluate student performance (including samples, if available).

f. Duration of the course.

6. For courses and programs involving other instructional approaches, e.g., self-paced or independent study courses, some of the foregoing information is neither appropriate nor relevant to the process. However, appropriate and available items must be provided in sufficient detail to allow each course to be judged by the review team.

The Course Review

7. Preferably, each review session will be conducted at the training site of the sponsoring organization. Wherever the session is held, persons from the organization should be available to answer questions that arise during the review of the course materials and to describe the process by which the curriculum is developed, evaluated, and revised. For reviews at the graduate level, site visits are mandatory.

Selection of Reviewers

8. In conducting course reviews, no fewer than three subject-matter specialists in the field under consideration will be used. The names of individuals to serve in this capacity will be solicited from postsecondary institutions, professional and educational associations, accrediting agencies, and noncollegiate organizations. In general, the review team will include one practitioner from a noncollegiate organization.

9. The following criteria will be considered in selecting course reviewers:

a. Area of reviewer competence as evidenced by formal training and experience will closely approximate area of courses being reviewed.

b. Preference will be given to reviewers who have had five years or more teaching experience (with the exception of the practitioner noted in 8 above).

c. Preference will be given to reviewers with experience in curriculum development, e.g., membership on a curriculum committee (with the exception of the practitioner noted in 8 above).

d. Preference will be given to reviewers who are generally receptive to granting credit for learning in noncollegiate settings.

Evaluative Criteria

10. In the exercise of their professional judgment, review team members will consider the following factors in determination of a credit recommendation:

a. The subject matter of a course, its level of difficulty, and its applicability to a range of postsecondary programs. These factors are of primary importance.

b. Distinctive aspects of noncollegiate education, including the background and selection of both instructors and students, the duration of a course, ongoing application of classroom learning in the students' work, and motivational factors.

c. Duration and concentration of effort in relationship to the generally accepted practice for determining credit in postsecondary institutions. Normally, academic credit is assigned on the basis of one semester credit hour for each 15 classroom contact hours plus 30 hours of outside preparation or equivalent; one semester credit hour for each 30 hours of laboratory work plus necessary outside preparation or equivalent; one semester credit hour for not less than 45 hours of shop instruction (contact hours or equivalent). Credit recommendations made by reviewers shall not, however, be derived by a simple arithmetic conversion. Intensive courses offered by noncollegiate organizations do not necessarily require as much outside preparation as many regular college courses. Reviewers should consider the factors of pre- and post-course assignments, prior work-related experience, the concentrated nature of the learning experience, and the reinforcement of the course material gained in the subsequent work setting.

Credit Recommendations

11. Credit recommendations will be reported in the following categories:

1. Vocational Certificate. This category describes course work of the type normally found in nondegree (certificate) programs, which are usually a year or less in length and designed to provide students with occupational skills. They can also be found in some curricula leading to associate degrees in applied science. Course content is specialized, and the accompanying shop, laboratory, or similar practical components emphasize procedural more than analytical skills.

2. Lower Division Baccalaureate/Associate Degree. This category describes course work of the type normally found in the first two years of a baccalaureate program and in programs leading to the Associate in Arts, the Associate in Science, or the Associate in Applied Science degrees. The instruction stresses development of analytical abilities at the introductory level. Verbal, mathematical, and scientific concepts associated with an academic discipline are introduced, as are basic principles. Occupationally oriented courses in this category are normally designed to prepare a student to function as a technician in a particular field.

3. Upper Division Baccalaureate. This category describes courses of the type found in the last two years of a baccalaureate program. The courses involve specialization of a theoretical or analytical nature beyond the introductory level. Successful performance by students normally requires prior study in the area.

4. Graduate Degree. This category describes courses with content of the type found in graduate programs. These courses often require independent study, original research, critical analysis, and scholarly and professional application of the specialized knowledge or discipline. Students enrolled in such courses normally have completed baccalaureate work.

12. Credit recommendation will apply retroactively to the date the course was offered substantially in the same form as seen at the review. Procedures for reporting and recording students' successful completion of the course must extend to the point to which the credit recommendation is backdated. In no case shall recommendations be made retroactive beyond ten years from the time of the review.

Updating Recommendations

13. Credit recommendations will be kept current by the following procedures:

a. At five-year intervals, each course will be reviewed, preferably on site, by a subject-matter specialist to determine if the credit recommendation is still applicable. Preferably, this subject-matter specialist will have been a member of the team that established the initial recommendation. The course materials will be compared with those used at the time of the initial review. Those courses which are judged to have undergone substantive changes will be re-evaluated by a full team.

b. At a regular intervals in the five-year period following the review of a course, a participating organization will submit information on each course for which a credit recommendation has been established. Any indication of a substantive change in a course will result in a re-evaluation of the course.

Publications

14. In project publications, course review results will be reported in displays containing the following information: name of course; organization course number, when available; location; length in contact hours and days or weeks; dates covered by the recommendation; statement of objectives; description of course content and instruction; credit recommendation in the appropriate category or categories and subject area(s); and date of review.

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